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BY OVERNIGHT DELIVERY
Andrew Taylor
Enforcement Officer, SFD-7-5
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105

March 7, 2008

Your ref: Request for Information Pursuant to CERCLA Section 104(e)
Del Amo Facility Superfund Site; Los Angeles County, California

Dear Mr. Taylor:

Shell Oil Company hereby submits its response to the Requests for Information directed to it pursuant to CERCLA Section 104(e), dated November 30, 2007. By agreement of Ms. Taly Jolish, the time for Shell to respond was extended to March 10, 2008. We appreciate your cooperation in providing this additional time. As was communicated to Ms. Jolish, this site is in a very mature stage of investigation and remediation. The scope of this request encompasses issues of site operations that have been the subject of lengthy and detailed remedial investigation reports submitted to EPA in the past. Shell focused in the limited time available on reviewing documents and testimony most likely to contain responsive information about TCE and other solvent use and to identify and describe generally the solvents used at the former synthetic rubber manufacturing plant during its operations. Shell maintains in storage hundreds of boxes of documents, most of which are over 30 years old, relating to the former operations at the Del Amo Site. These have previously been produced to and reviewed by the United States and, thus, you already have this information. A reasonable search for responsive information was conducted based on box and file contents; however, the focus was on providing a meaningful summary of solvent use in as short a time as possible. If EPA needs specific information that was objected to as overly burdensome and/or otherwise not provided, please contact the undersigned so that we can evaluate whether additional information may be available and how long it would take to review the remaining documents for such information.

As requested on page 2 of the Request, please be advised that all future correspondence to Shell in regard to this request should be directed to the undersigned:

Kim Lesniak
Senior Legal Counsel
Shell Oil Company
One Shell Plaza
910 Louisiana St.

Houston, TX 77002
(713) 241-5403
fax (713) 241-4081

General Objections

A. Shell objects and asserts all applicable privileges and protections it has with regard to EPA's enumerated inquiries including the attorney-client privilege, attorney work product doctrine, audit/self-evaluative privilege, materials generated in anticipation of litigation, and privileges for materials that are proprietary, company confidential, or trade secret. CERCLA does not require a party to divulge such privileged or otherwise confidential information in response to information requests. For this reason, Shell also objects to instruction # 6 to the extent it purports to require it to include documents developed by its attorneys or its employees and consultants in support of litigation.

B. Shell objects to the requests to the extent the requests use undefined terms or are overbroad, vague, ambiguous, irrelevant and unduly burdensome so as to exceed statutory authority under CERCLA and contravene Shell's constitutional rights. In responding to these requests, Shell relies on the definition of these terms as they are commonly used (*i.e.*, their dictionary definitions) unless otherwise noted herein.

C. Shell objects to the requests on the grounds that certain of the requests are overbroad and unduly burdensome in that they seek information or documents regarding facilities either prior to or after Shell's or its affiliates' ownership or operation of the facilities. Such requests exceed EPA's statutory authority under CERCLA. Shell will respond to these questions with respect to the butadiene Plancor for the time period of July 1943 to April 24, 1955. Shell will respond to these questions with respect to the entire synthetic rubber plant for the period of time from April 25, 1955 to December 12, 1972, when the facility was sold to Cabot, Cabot & Forbes, with the exception of the Elastomers Technical Center which was leased and operated for another approximately three (3) years. Shell may provide information outside this time period where known and reasonably available, but can not be responsible for complete and full answers with respect to other, third-party owners and/or operators of the facility or nearby facilities.

D. Shell objects to any requirement to produce documents or information already in the possession of the United States (including EPA and the U.S. Department of Justice), or already in the public domain (including the National Archives). Such requirement is unnecessary under CERCLA Section 104(e), cumulative, duplicative, and unduly burdensome. Substantial, exhaustive information, depositions and documents have previously been produced to the United States in the matter of *Shell Oil Company v. United States,* No. 93-4584 ER (JGx), in the U.S. District Court, Central District of California, and related cases including *Cadillac Fairview/California, Inc. v. Dow Chemical Co., et al.*, No. 83-7996-MRP (Bx) and *Hamilton Dutch Investors v. Shell Oil Company et al.*, No. 89-3738WMB (Kx), in the U.S. District Court, Central District of California, and may contain responsive information already available to the United States. Numerous technical reports from the investigation of the Del Amo Site were generated for and submitted to the EPA and also contain responsive information not duplicated herein.

E. CERCLA Section 104(e)(2) authorizes EPA to require submission of information upon reasonable notice. Shell conducted a review of available records that was achievable given the time period Shell had to respond to this request and has supplied available non-privileged information concerning the facilities that was found during that review. If Shell locates further, non-privileged responsive information to which it has not objected subsequent to this letter, it will endeavor to timely supplement this response.

F. Shell objects to the requests to the extent they call for Shell to make a legal conclusion concerning Shell's potential liability under CERCLA for the Site.

G. Shell objects to the requests to the extent they seek trade secrets or other confidential information.

H. Shell objects to the instruction to identify all documents, persons and sources *consulted* in the preparation of the answer as overly burdensome and as calling for the disclosure of privileged and confidential attorney work product. For example, to the extent numerous historical documents regarding site operations were reviewed that did not mention solvents under question 2 or the specific chemicals in question 3, it would be unduly burdensome to require Shell to identify each document reviewed (even though the very absence of mention of the referenced chemicals is relevant to this request and forms a basis for this response). Without waiving and subject to these objections, please see list of documents on Exhibit A and all documents attached to this Response.

I. Shell objects to Instruction # 4, which suggests that Shell has an obligation to provide information that was never put in writing or is from written documents that are no longer available. Shell Chemical's operations at this facility began over sixty years ago and ceased in the early 1970s, over 30 years ago. Most former employees who worked at the rubber plant are deceased. Shell's institutional knowledge regarding these operations is, accordingly, limited and must be based on existing written documentation. For this reason Shell also objects to the definition of "knowledge" to include institutional awareness "within your possession or control, or otherwise available to you." Comprehensive depositions were conducted of former employees in prior litigation relating to these sites in the early 1990s. Shell will conduct a reasonable and thorough review of available documents and its former employees' deposition testimony for this response, but can not be held responsible for providing information not written, from documents no longer available, or from former employees who are no longer available to Shell.

J. Shell objects to the definition of "identify" in Definition # 7 to the extent it requires individual social security numbers. As an affiliate of Royal Dutch Shell plc, Shell is subject to the limitations and requirements of the European Union Data Privacy Directive and will respond only as consistent with the Directive and Shell's HR Data Privacy guidelines and principles.

J. Shell objects to the definition of "property" in Definition # 13(b) to include all real properties "associated with" the former Synthetic Rubber plant, as vague, ambiguous and overbroad. For example, benzene (a raw material) was purchased and shipped, typically by pipeline, from a refinery operated by a Shell affiliate (Shell Dominguez Refinery) located in Carson, California. It is unclear if this type of potential "association" is intended by this definition. Because other Shell-affiliated plants that may have provided raw material or fuels were separately

operated and are not located proximate to the Del Amo site (i.e., not conceivably a source of the on-site contamination), Shell does not include those properties in its reading of the term "property" for purposes of this response. Shell Development Company's research and development operations at the Elastomers Technical Center on a portion of the property from 1972-1975 are included in this response. Shell also objects to the portion of definition of "property" at 13(e) with the language "or associated with the former facilities or operations of these persons at any time" as vague, undefined, confusing and unclear, and Shell is unable to understand the scope of real property that would fall into this category.

Specific Objections and Responses

1. *Identify those individuals who provided the knowledge, information or documents used to* prepare the response to these questions. Include the full name, current title and duties, as well as past titles and duties, current address and telephone number, and tenure for each individual providing an answer for any of these questions.

   Shell objects to the requirement to provide: current duties; past title and duties; and tenure for the individuals identified in this response. Such information is largely not relevant and would be overly burdensome to assemble. If individuals have personal knowledge of the site's operation resulting from their former titles and duties, that information will be provided to the extent available.

   The following individuals participated in or provided documents used in the preparation of these responses:

   Tom Bois, Esq.
   Bois & Macdonald
   2030 Main Street, Suite 660
   Irvine, CA 92614
   (949) 660-0011

   George Deeley
   Senior Consultant
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In addition, Shell consulted depositions of the following former employees. Additional depositions of former Shell employees were recently located and will be reviewed. The United States was represented at many of these depositions. Shell will supplement this response if any additional responsive information is located:

Lloyd Royce Donkle
Butadiene Plant Process Control (1943-1947)
Senior Chemist (Assistant Chief Chemist) (1950-1952)
Chief Chemist (1952-1955)
Technological Department Sr. Process Engineer (1955-1958)
Technological Department Group Lead (1958-1962)
Staff Engineer – Environmental (1962-1972)
Shell Torrance Plant
3809 Walnut Avenue
Long Beach, CA 90807
(213) 427-6735
Deceased

LeVern E. Hanstedt
Senior Engineer
Assistant Department Manager
Technical Center
Shell Torrance Plant (1955-1971)
Shell Development Corp Torrance (1971-1976)
(previously Dow 1952-1955)
2193 County Road 240
Durango, CO 81301
Deceased

Arthur E. Martin
Rubber Reserve Field Representative (1945-1947; 1950-1955)
Senior Technologist (1955-1961)
Responsibilities included waste handling
Shell Torrance Plant
No information available

Eugene Stannard Martin
Assistant Superintendent (1955-1961)
Operations Manager (1961-1964)
Plant Manager (1970-1972)
Shell Torrance Plant
P.O. Box 215
Chapman Street
Montrose, AL 36559

Finley Carlyle Pearce
Butadiene Plant (1950-1955)
Copolymer Plant Assistant Manager (1955-1961)
Butadiene Plant – Engineer and Chief Inspector (1961-1971)
Shell Torrance Plant
Deceased

Francis Tjeerd Tymstra
Styrene Plant Manager (1955-1971)
Shell Torrance Plant
820 Palomar Road
Ojai, CA
Deceased

2. State whether any solvent was ever used, sold, stored, disposed of, sent off-property for recycling, or otherwise handled at the facility during the period of time when you owned, leased and/or operated any portion of the property. If so, for each solvent, provide the following information:

Shell objects to this question and its numerous sub-parts as overbroad, vague, and unduly burdensome. This site has been exhaustively investigated and remedial investigation (RI) reports for all operable units of the site have been submitted to EPA. These reports and related submittals contain extensive discussions of site operational history and chemical handling/storage/disposal. *See, e.g.*, Appendix A of the Phase I Remedial Investigation Report (Dames&Moore, October 29, 1993) and Chapter 2 of the Remedial Investigation Report, Soil and NAPL Operable Unit (URS, June 28, 2007). These technical submissions to EPA are incorporated herein by reference and should be consulted for a more complete discussion of site operations, waste facilities, drainage, etc.

Shell objects to the use of the undefined term "solvent" and will use its best engineering understanding of this word in the context of chemicals used *as solvents* in the Torrance Plant's synthetic rubber manufacturing. Shell objects to questions relating to chemicals that are not CERCLA "hazardous substances" and/or that are not present in environmental media at the site above background concentrations or at levels requiring investigation and/or response costs.

Subject to and without waiving its general and specific objections, Shell responds as follows:

a. Identify the chemical name and composition, trade name and FIFRA registration number; if any;

(1) Acetone
(2) Copper Ammonium Acetate Solution (CAA). This was a mixture of copper, ammonia and acetic acid.
(3) Concentrated Sulfuric Acid Solution
(4) Acetonitrile
(5) Propylbenzene (in a mixture with butylbenzene)
(6) Butylbenzene (in a mixture with propylbenzene)
(7) Cyclohexane
(8) Isopentane

In addition, there is documentation suggesting the receipt at and/or shipment from the Torrance plant of Tolusol and Cyclosol. To the best of Shell's knowledge these chemicals were not used as solvents by the plant, but rather were used as polymer extenders. Toluene was made as byproducts and sold for commercial value. Xylene-solvent naphtha appears in a list of storage and process vessels in a 1953 Rubber Producing Facilities report on the Dow-operated styrene plant, but is use – if any – is unclear and pre-dates Shell operations. Dow employee Earl A. McLain testified that xylene solvent naphtha was sold but not used at the facility (McClain Deposition 8/25/92, p. 258). Detailed responses are not provided for these chemicals.

b. The time period(s) during which it was used;

(1) 1943-approx. 1955-60; subsequent incidental use - 1972
(2) 1943-1972
(3) 1943-1972
(4) Approximately1955-60 -1972
(5) 1955-1972
(6) 1955-1972
(7) 1963-1975
(8) 1963-1975
[Exceptions: plant shudowns in late 1940s]

c. Identify all persons who used the solvent at the facility during each period;

Shell objects to this question as overbroad and unduly burdensome. Shell does not possess complete site employee lists or lists of employees organized by area of work/job descriptions.
(1) Workers in the butadiene plant and possibly the laboratory would have used acetone.
(2) Workers in the butadiene plant would have used CAA.
(3) Workers in the butadiene plant would have used sulfuric acid solution.
(4) Workers in the butadiene plant would have used acetonitrile.
(5) Workers in the 1300 and 2300 areas of the styrene plant and the copolymer plant would have used propylbenzene.
(6) Workers in the 1300 and 2300 areas of the styrene plant and the copolymer plant would have used butylbenzene.
(7) Workers in the copolymer plant and the ETC would have used cyclohexane.
(8) Workers in the copolymer plant and the ETC would have used isopentane.

d. Describe briefly the purpose for which the solvent was used at the facility;

(1) Acetone was used in separation of butylene and butadiene from butane by means of an extractive distillation using a solution of acetone and water. After the change to acetonitrile, small quantities of acetone continued to be handled at the plant, possibly as a general purpose solvent.
(2) CAA was used in counter-current extraction of butadiene from the butylene-butadiene mixture.
(3) Sulfuric acid solution was used in removal of isobutylene from C4 hydrocarbon feedstocks.
(4) Acetonitrile was used in separation of butylene and butadiene from butane by means of an extractive distillation using a solution of acetonitrile and water. Acetonitrile was effectively a replacement for acetone in modifications of the base hydrocarbon feed purification process in the late 1950s-1960.
(5) Propylbenzene was used as a solvent for cleaning equipment and the propane pyrolysis cracking furnaces in the 1300 and 2300 areas.
(6) Butylbenzene was used as a solvent for cleaning equipment and the propane pyrolysis cracking furnaces in the 1300 and 2300 areas.
(7) Cyclohexane was a solvent used in the production of styrene-butadiene-styrene (S-B-S Delta) polymer and other related polymers such as styrene-isoprene-styrene (S-I-S Delta) polymer. Cyclohexane storage and use as a solvent also occurred at the Elastomers Technical Center (ETC) pilot plants.
(8) Isopentane was a solvent used in the production of polyisoprene latex. It was a solvent used in the production of styrene-butadiene-styrene (S-B-S Delta) polymer and other related polymers such as styrene-isoprene-styrene

(S-I-S Delta) polymer. Isopentane storage and use as a solvent also occurred at the Elastomers Technical Center (ETC) pilot plants.

e. The total volume (in gallons) of such solvent used during the time period, and if more than one time period is involved also provide the volume for each time period;

Shell objects to this question as overbroad and unduly burdensome. It would be extremely expensive and time consuming to recreate chemical inventories for these operations that were conducted 30 to 60 years ago. Subject to and without waiving these objections, the following solvent delivery/consumption information has been identified:
(1) Partial information is available with respect to acetone. 607,000 lbs (91,000 gallons) was consumed for fiscal year ending June 30, 1953. Forty-two (42) tons/month (which would be 153,000 gallons/year if the monthly average was consistent over the year) of acetone was received according to a 1955 report. Small amounts of acetone continued to be received after the change in process to acetonitrile.
(2) Partial information is available with respect to CAA. Copper (180,000 lbs), ammonia (679,000 lbs) and acetic acid (234,000 lbs) were consumed for fiscal year ending June 30, 1953. Assuming a solution with 50% by weight of water, total consumption of CAA solvent would have been about 2,000,000 lbs (about 260,000 gallons). This is an estimate using Shell's engineering judgment; actual documentation, if it could be found, may be more reliable and accurate. A report reflects receipt of 10,000 gallons per month of anhydrous ammonia (which would be 120,000 gallons/year if the monthly average was consistent over the year) in 1955. Handwritten notes on this report suggest receipt of one rail car of anhydrous ammonia per month during this 3-month period in 1955.
(3) Partial information is available with respect to sulfuric acid solution. 367,000 lbs (55,000 gallons) was consumed for fiscal year ending June 30, 1953. A report reflects receipt of 42,000 gallons of sulfuric acid as a monthly average for the 3-month period of the report in 1955. Handwritten notes on this report suggest receipt of six rail cars of sulfuric acid per month during this period in 1955.
(4) Partial information is available for acetonitrile. An inventory for 1966 indicates purchase of 104,678 gallons of acetonitrile.
(5) No information is available for propylbenzene.
(6) No information available for butylbenzene.
(7) Partial information is available for cyclohexane. An inventory for 1966 indicates purchase of 68,303 gallons of cyclohexane.
(8) Partial information is available for isopentane. Isopentane purchases in 1966 totalled approximately 1,301,663 pounds (267,000 gallons). Monthly purchases for periods in 1969 and 1970 average about 25,500 gallons (approximately 124,000 lb/month). An Accounting Stock Movement Statement for March 1969 reflects purchase of 95,679 pounds of isopentane.

f. Identify the supplier(s) and provide copies of all contracts, service orders, shipping manifests, invoices, receipts, canceled checks and other documents pertaining to the supplying of the solvent;

Shell objects to this question as overbroad and unduly burdensome. It would be extremely expensive and time consuming to recreate chemical inventories and purchases for these operations that were conducted 30 to 60 years ago and to provide copies of all contracts, service orders, shipping mainfests, invoices, receipts, cancelled checks and other documents pertaining to supplying of solvents. Supplier information and contract/shipping/payment documentation requested above was not located in the search conducted to prepare these responses, except as follows:

(1) Acetone was supplied by Shell Chemical Company according to a 1955 report.

(2) Anhydrous ammonia, a component of CAA was supplied by Shell Oil Co. according to a 1955 report.

(3) Sulfuric acid was supplied by Stauffer Chemical Co. according to a 1955 report.

(5) Propylbenzene was a co-product of the ethylbenzene units; it was produced on site and did not have a commercial supplier or delivery.

(6) Butylbenzene was a co-product of the ethylbenzene units; it was produced on site and did not have a commercial supplier or delivery.

(7) In 1964, Signal Oil Company was the supplier of cyclohexane.

(8) Shell Oil Company was a supplier of isopentane.

g. Describe how and where the solvent was stored at the facility, including but not limited to, the kind and size of containers or tank(s), the storage area, pad or enclosure, the approximate average volume stored at the facility, and if the storage practice changed during the period, state how and when and provide a map depicting the location(s) of each storage area;

Shell objects to this question as overbroad and unduly burdensome. Subject to and without waiving its objections, Shell responds that the following solvent storage information has been identified:

(1) Acetone was stored at Tank F-154 and Tank F-155, with a combined capacity 110,000 gallons, located in area 150 (see attached map, Exhibit B).

(2) Tank F-416: CAA solvent Mixture; F-443: copper storage bin (140,250 gallons); Tank F-435: acetic acid storage (19,200 gallons); Tank F-430: aqueous ammonia (13,000 gallons). These were located in area 400 (see Exhibit B).

(3) Tank F-114: sulfuric acid storage (10,656 gallons); Tank F-115: dilute sulfuric acid storage (13,051 gallons); Tank F-117: dilute sulfuric acid storage (13,044 gallons); Tank F-117: spent acid storage (13,040 gallons). Sulfuric acid was stored in Area 100 along with the process (see Exhibit B).

(4) Acetonitrile was stored in Tank F-154 and Tank F-155, combined capacity 110,000 gallons, located in area 150 (see Exhibit B).
(5) Propylbezene and butylbenzene were stored as a mixture in Tanks T-2528A (38,000 gallons); T-2528B (52,000 gallons) and T-2528C (105,000 gallons) (see Exhibit B). Spent solvent was stored in V-1223 in the 1200 area.
(6) See response for propylbenzene, 2(g)(5) above.
(7) Cyclohexane was stored in Tanks V-3532 and V-3533 in the 3500 area (see Exhibit B). Two additional 10,000 gallon storage tanks were proposed for the ETC. Prior to their installation, the cyclohexane was stored in former rail car tanks located at the rail spur adjacent to the ETC.
(8) Isopentane was stored in Tanks V-1417 in the 1400 area (10,000 gallons). (see Exhibit B). One additional 10,000 gallon tank was proposed in the ETC. Prior to its installation the isopentane was stored in a former rail car tank locaated at the rail car spur adjacent to the ETC.

h. State how frequently the solvent was delivered to the facility and in what volume on the average (estimate if exact frequency and volumes are not known);

See objection and responses to question 2(e).

i. State whether the solvent was delivered to the facility in bulk or in closed containers and describe how the solvent was transferred to the storage containers or tank(s) including any equipment used and by whom;

(1) Acetone was received by tank truck.
(2) Copper was received by rail (barrels). Ammonia was received by rail (tank car). Acetic acid was received by rail (tank car).
(3) Sulfuric acid was delivered by rail (tank car).
(4) It is assumed acetonitrile was received by tank truck.
(5) Propylbenzene was produced on site, in the ethylbenzene units (1200 area). It was stored in the Tank farm area (2500 area). It was initially transported using a 1000 gallon utility trailer. A 1963 proposal suggested direct piping to the furnace area.
(6) Butylbenzene was produced on site, in the ethylbenzene units (1200 area). It was stored in the Tank farm area (2500 area). It was initially transported using a 1000 gallon utility trailer. A 1963 proposal suggested direct piping to the furnace area.
(7) Cyclohexane was delivered by tanker car and tank trailer and was also piped from the styrene plant to two vertical storage tanks.
(8) Isopentane was delivered by tanker car and tank trailer.

j. Describe how the solvent was used at the facility;

(1) Acetone was used in separation of butylene and butadiene from butane by means of an extractive distillation in a 71-plate column, employing a

solution of acetone and water. The acetone solution left the bottom of the column with the butylene and butadiene, while the butane passed overhead. The butylene and butadiene were then separated from the acetone solution in a second fractionator and then water-washed to recover traces of acetone. The butane stream was also water-washed to recover acetone.

(2) The butylene-butadiene mixture from the prior extractive distillation unit was routed to the product purification unit where the butadiene stream was removed. The unit consisted of equipment for continuous counter-current liquid phase extraction of butadiene, solvent purification, and solvent make-up. Twelve (12) extraction stages were provided, each consisting of a turbo-mixer and settler drum. The rich solvent (extract) left the extraction system and passed to a desorber tower where the butadiene was removed by vaporization. The solvent was returned to the extraction system for reuse. The CAA solvent became contaminated with polymers and diluted with time. The CAA was continuously filtered to remove the polymers and concentrated to desired strength through removal of excess water. From 1967 through 1971, the solvent filters were replaced with carbon towers.

(3) C4 hydrocarbon feedstocks were combined with a recycle stream from the downstream butadiene purification section and fed into the Acid Unit. Cold (100° F) sulfuric acid was used to remove isobutylene from the feed stream. A hydrocarbon-acid emulsion was circulated through a reactor system. A distillation tower separated the stream into light and heavy product. The light product served as feed to the acetone unit. The heavy fraction was heated to polymerize hydrocarbons absorbed in the acid. After separation, the acid layer was recycled to the reaction system and the polymer layer was caustic-washed and distilled. The polymer fraction was stored and shipped to a refinery. Spent sulfuric acid was neutralized with caustic.

(4) Acetonitrile was used in separation of butylene and butadiene from butane by means of an extractive distillation in a 71-plate column, employing a solution of acetonitrile and water. The acetonitrile solution left the bottom of the column with the butylene and butadiene, while the butane passed overhead. The butylene and butadiene were then separated from the acetonitrile solution in a second fractionator and then water-washed to recover traces of acetontrile. The butane stream was also water-washed to recover acetonitrile.

(5) Propylbenzene was used in cleaning equipment and the propane pyrolysis furnaces in the 1300 and 2300 areas.

(6) Butylbenzene was used in cleaning equipment and the propane pyrolysis furnaces in the 1300 and 2300 areas.

(7) Cyclohexane was used in the polymerization process. Shell's KRATON styrene-butadiene block (SBS) copolymers were made by a solution polymerization process using a mixture of cyclohexane and isopentane as solvents. After polymerization, the solvents and residual monomers were evaporated by a steam jet and hot water coagulation technique. Solvents were recycled.

(8) Isopentane was used in the polymerization process. See also 2(j)(7), above.

k. Provide any material safety data sheet(s) used at the facility for the solvent;

None have been located.

l. Provide a map depicting the location(s) of each area that the solvent was used;

See attached Exhibit B.

m. Describe how the solvent was transported from the on-site storage to the point where it was applied, in what amounts, and whether this was done using containers, hoses, piping or other equipment;

Shell objects to this question as overbroad and unduly burdensome. It would be extremely expensive and time consuming to recreate chemical inventories and movements for these operations that were conducted 30 to 60 years ago. Subject to and without waiving its objections, Shell responds that in general liquids were moved from storage to process vessels/equipment by pipe. The following information has also been identified:
(1) Acetone tanks were located in Area 150 along with the process.
(2) CAA storage vessels were located in Area 400 along with the process.
(3) Sulfuric acid was stored in Area 100 along with the process.
(4) Acetonitrile tanks were located in Area 150 along with the process.
(5) Propylbenzene was produced on site, in the ethylbenzene units (1200 area). It was stored in the Tank farm area (2500 area). It was initially transported using a 1000 gallon utility trailer. A 1963 proposal suggested direct piping to the furnace area.
(6) Butylbenzene was produced on site, in the ethylbenzene units (1200 area). It was stored in the Tank farm area (2500 area). It was initially transported using a 1000 gallon utility trailer. A 1963 proposal suggested direct piping to the furnace area.
(7) Cyclohexane flowed through the process reactors and piping.
(8) Isopentane flowed through the process reactors and piping.

n. Describe the procedures for cleaning any equipment used and where this was done;

Shell objects to this question as overbroad and unduly burdensome. Shell assumes this question relates to equipment where solvents were used.
The majority of the plant equipment was inspected, cleaned and repaired, if necessary, at least once a year. The location of the cleaning of this immovable equipment would have been at the relevant process area.

Details regarding the specific cleaning processes for equipment used with these chemicals were not located, except as follows.
(5) & (6) Equipment, possibly also lines and the pyrolysis furnaces in the 1300 and 2300 areas of the styrene plant were cleaned with propylbenzene and butylbenzene.

o. Describe how, where, when, and by whom the solvent containers were cleaned out, and removed from the facility or disposed of;

Shell was unable to locate information about routine container cleaning.
(1) Shell assumes that tanks were cleaned out with the switch to acetonitrile process in about 1960.
(2), (3), (4), (5), (6), (7), (8) Tanks and storage containers were cleaned out and removed after plant closure in 1972. Mr. LeVern Handstedt (10/1/93 & 10/2/93) testified that some empty drums, in part formerly containing solvents from the ETC, were steam cleaned in the early 1970s. Other depositions do not confirm this operation or provide any additional details. The details regarding cleaning of containers formerly containing these chemicals are unavailable.

p. If any of the practices described in response to the above subquestions changed during that time period describe the change and when it occurred;

(1) Acetone was no longer used in this process after 1960; however, storage tanks continued to be used and there is no indication of any other major changes to the starting reagent purification process.
(2) From 1967 through 1971 the CAA solvent filters were replaced with carbon towers.
(5) & (6) Propylbenzene and butylbenzene were originally transported by trailer but a proposal in 1963 suggests direct piping to the furnace area.

q. If you have any reason to believe that there may be persons able to provide a more detailed or complete response to any subquestion contained herein or who may be able to provide additional responsive documents, identify such persons and the additional information that they may have.

The United States (including documents at the National Archives) may have information about the use, transportation and storage of these chemicals in the butadiene plant.

Prior owners and/or operators of the styrene plant may have additional responsive information about the use, transportation and storage of these chemicals. These include the United States (including documents at the National Archives) (*see, e.g.*, "Report to Reconstruction Finance Corporation Office of Rubber Reserve on Industrial Wastes" by Sheppard T. Powell (October 31, 1946) and Dow Chemical Company, 2030 Dow Center, Midland, MI (989-636-1463).

Prior owners and/or operators of the copolymer plant may have additional responsive information about the use, transportation and storage of these chemicals. These include: The United States (including documents at the National Archives), Goodyear Tire & Rubber Company, 1144 East Market Street, Akron, OH 44316-0001 (330-796-2121); Minnesota Mining and Manufacturing Company, 3M Center, St. Paul, MN 55144-1000; Midland Rubber Corp. (current contact information unknown); and U.S. Rubber Co. On information and belief, U.S. Rubber is now owned by Michelin North America Inc., 1 Parkway South, Greenville, SC 29615 (864-458-5000).

Stone & Webster Inc., which undertook engineering design work for the facility, may have information about the production process, chemical storage, and chemical transportation. Upon information and belief, assets and certain liabilities of Stone & Webster were acquired by The Shaw Group Inc., 4171 Essen Lane, Baton Rouge, LA 70809 (225-932-2500).

Suppliers of these chemicals may have information about their delivery and the amount of chemicals delivered/used. Any known supplier names are provided in response to subpart (f) above.

Environmental investigation and remediation contractors may have information about the former operations of the facility including handling of these chemicals. The identity of these companies is known to the U.S. Environmental Protection Agency.

3. State whether trichloroethylene (TCE) or material containing trichloroethylene and other hazardous substances or mixtures containing or consisting of hazardous substances, including but not limited to PCE, TCE, DCE TCA, DCA, vinyl chloride, methylene chloride, methyl ethyl ketone, acetone, or other ketones – collectively referred to in this information request as "material" – was ever used, sold, stored, disposed of, sent off-property for recycling, or otherwise handled at the facility during the period of time when you owned, leased and/or operated the property. If so, for each material, provide the following information.

Shell objects to this question as vague, overbroad and unduly burdensome. As written it is unclear whether this question is limited to TCE and mixtures containing TCE, or includes any of the other listed substances regardless of presence of TCE. At the direction of EPA counsel Ms. Taly Jolish, information is provided herein regarding the substances listed in this question even though there is no evidence they were ever mixed with or contained TCE at the Del Amo Site.

Shell notes that during the mid-1970s trace levels of trichloroethylene (TCE) were reported in the Sanitation District of Los Angeles County Industrial Wastewater Critical Parameter Report form submitted by the Shell Development Company Elastomers Technical Center

(ETC) under an indirect discharge authorization for discharges that were routed from the ETC to the Shell Oil Dominguez Refinery and commingled with refinery effluent prior to discharge to the sanitary district. The effluent was routed to the Dominguez Refinery through an existing pipeline that was, according to a proposal for this arrangement, previously in fuel gas and butadiene service. Shell believes these samples (1) were taken after shutdown of the synthetic rubber plant operations; and (2) may have been taken from conduits containing wastewater effluent commingled with other sources such as the Shell Dominguez refinery and, thus, that such data does not document use of TCE at the Del Amo Site. See Documents attached at Exhibit C and Remedial Investigation Report, Soil and NAPL Operable Unit, pp. 28-29 (URS, June 28, 2007).

After a careful review of site operating files, no evidence of TCE use, or presence as a mixture with any other chemicals used on-site, was found.

Some material inventories indicate the handling of small quantities of MEK and MIK at the Torrance plant (*see* Shell Chemical Company Torrance Plant Operating Expenses Year 1966, Bates # TORRANCE SI-0020952 – showing 366 units (pounds or gallons) of MEK purchased that year), but the use, if any, at the plant is unknown. In one instance in 1952, toluene, MEK and carbon tetrachloride were used in tests of various chemicals to try to dissolve oily material that accumulated in the 150 Area feed vaporizer knock-out drum (drum F-1502) resulting from receipt of off-spec crude butadiene from Standard Oil. With the exception of this instance and the sporadic information on volumes of MEK and MIK purchased, received or shipped out, information to answer the questions is not available in the document record or depositions. Accordingly, detailed responses cannot be provided for these chemicals.

Subject to and without waiving its general and specific objections, and denying that these substances contained TCE, Shell further responds as follows:

a. Identify the chemical name and composition, trade name and FIFRA registration number; if any;

(1) Acetone
(2) Ethylchloride
(3) Chloroform

b. The time period(s) during which it was used;

(1) See response to question 2(b), above.
(2) Start date unknown, presumed 1955 – 1975.
(3) Start date unknown – 1975.

c. Identify all persons who used the material at the facility during each period;

Shell objects to this question as overbroad and unduly burdensome. Shell does not possess complete site employee lists or lists of employees organized by area of work/job descriptions.

(1) See response to question 2(c), above
(2) Workers in the styrene plant would have used ethylchloride.
(3) Workers in the ETC/analytical laboratory may have used chloroform.

d. Describe briefly the purpose for which the material was used at the facility;

(1) See response to question 2(d), above.
(2) Ethylchloride was an alkylation catalyst promoter.
(3) Chloroform was used in the laboratory for product quality control purposes for determination of chloroform soluble, nonvolatile residues in polymers.

e. The total volume (in gallons) of such material used during the time period, and if more than one time period is involved also provide the volume for each time period.

Shell objects to this question as overbroad and unduly burdensome. It would be extremely expensive and time consuming to recreate chemical inventories for these operations that were conducted over 30 years ago. Subject to and without waiving its objections, the following information has been identified:
(1) See response to question 2(e), above
(2) Partial information is available for ethylchloride. A report on monthly average inbound carload shipments reflects 10,000 gallons of ethylchloride received per month during the three (3) months of the report period in 1955. Handwritten notes on this report suggest receipt of one rail car of ethylchloride per month during this period. Ethylchloride purchases in 1966 totaled approximately 1,782,712 pounds (214,000 gallons). Purchase and transfer summaries for 1968- 1970 indicates an average of 13,730 gallons/month of ethylchloride were purchased (assuming units on the underlying documents are pounds). Based on shipping manifests from 10/1/1971, 10/15/1971 and 10/28/1971 about 114,000 pounds (13,680 gallons) of ethylchloride was delivered in October 1971. An Accounting Stock Movement Statement for March 1969 shows receipt of 74,810 pounds of ethylchloride.
(3) A list of laboratory-stored chemicals indicates one (1) gallon of chlorinated hydrocarbons, which is believed to have been chloroform used for product testing/quality control.

f. Identify the supplier(s) and provide copies of all contracts, service orders, shipping manifests, invoices, receipts, canceled checks and other documents pertaining to the supplying of the material;

Shell objects to this question as overbroad and unduly burdensome. It would be extremely expensive and time consuming to recreate chemical inventories and purchases for these operations that were conducted over 25 years ago. Subject to and without waiving its objections, supplier

information and contract/shipping/payment documentation requested above was not located in the search conducted to prepare these responses, except as follows:

(1) See response to question 2(f), above
(2) American Chemical Corporation is the supplier indicated on shipping manifests from October 1971. *See* Exhibit D. American Chemical Co. is also shown as the supplier of ethylchloride in May 1968. Shell Oil Co. is indicated as the supplier of ethylchloride delivered by rail car in a 1955 monthly inboard carload shipments report.
(3) Unknown.

g. Describe how and where the material was stored at the facility, including but no limited to, the kind and size of containers or tank(s), the storage area, pad or enclosure, the approximate average volume stored at the facility, and if the storage practice changed during the period, state how and when and provide a map depicting the location(s) of each storage area.

Shell objects to this question as overbroad and unduly burdensome.
(1) See response to question 2(g), above.
(2) Ethylchloride was stored in Tanks V-35A and V-35B, also show as HTS # 3, located in area 1200 (see attached map, Exhibit B).
(3) One (1) gallon stored in analytical laboratory.

h. State how frequently the material was delivered to the facility and in what volume on the average (estimate if exact frequency and volumes are not known);

(1) See response to question 2(h), above
(2) See response to question 3(e), above.
(3) See response to question 3(e), above.

i. State whether the material was delivered to the facility in bulk or in closed containers and described how the material was transferred to the storage containers or tank(s) including any equipment used and by whom;

(1) See response to question 2(i), above.
(2) By tank truck and rail car.
(3) Unknown.

j. Describe how the material was used at the facility;

(1) See response to question 2(j), above.
(2) In the ethylbenzene units, benzene and ethylene were fed into acid-brick lined alkylation reactors with aluminum chloride present as a catalyst. The reaction was conducted under anhydrous conditions. Ethyl chloride was used as a catalyst promoter and was consumed in the process.

(3) Chloroform soluble and nonvolatile residue in product was determined by dissolving a residue in a total of 50 ml of spectrophotometric grade chloroform, filtering the chloroform, evaporating the chloroform in an oven and measuring the remaining residue.

k. Provide a map depicting the location(s) of each area that the material was used;

(1) See response to question 2(k), above.
(2), (3) See attached Exhibit B.

l. Provide any material safety data sheet(s) used at the facility for the solvent;

None located.

m. Describe how the material was transported from the on-site storage to the point where it was applied, in what amounts, and whether this was done using containers, hoses, piping or other equipment;

Shell objects to this question as overbroad and unduly burdensome. It would be extremely expensive and time consuming to recreate chemical inventories and movements for these operations that were conducted over 30 years ago. Subject to and without waiving its objections, Shell responds that in general liquids were moved from storage to process vessels/equipment by pipe. The following information has been identified:
(1) See response to question 2(m), above.
(2) Unknown
(3) Unknown, but likely by hand, in a smaller container, from storage container to laboratory apparatus.

n. Describe the procedures for cleaning any equipment used and where this was done;

Shell objects to this question as overbroad and unduly burdensome. Shell assumes this question relates to the equipment where solvents were used.
(1) See response to question 2(n), above.
(2) The majority of the plant equipment was inspected, cleaned and repaired, if necessary, at least once a year. Details regarding the procedures for cleaning the equipment used with these chemicals are unavailable.
(3) Laboratory equipment was scoured with distilled-deionized water and Ajax, rinsed with tap water, and further rinsed with distilled-deionized water (cold and boiling). Beakers were dried in oven.

o. Describe how, where, when, and by whom the material containers were cleaned out, and removed from the facility or disposed of;

(1) See response to question 2(o), above.

(2) Shell was unable to locate information about routine container cleaning. Tanks and storage containers were cleaned out and removed after plant closure in 1972. The details regarding cleaning of containers formerly containing these chemicals are unavailable.
(3) Containers were cleaned after every test.

p. If any of the practices described in response to the above subquestions changed during that time period describe the change and when it occurred;

(1) See response to question 2(p), above.
(2), (3) No information.

q. If you have any reason to believe that there may be persons able to provide a more detailed or complete response to any subquestion contained herein or who may be able to provide additional responsive documents, identify such persons and the additional information that they may have.

See response to question 2(q), above.

4. If the answer to either question 2 or 3, above, is affirmative, please state whether any of the identified solvents or materials ever spilled, leaked, or was otherwise released to the environment – including, but not limited to, from storage and/or handling units, such as tanks, tank cars, or drums – at the facility during the period of time when you owned, leased and/or operated any portion of the property. If so, provide the date(s) of such release, the name and or composition of the specific solvents or materials released, and describe the nature and extent of the release, as well as any response to the release.

Shell objects to this question as overbroad, burdensome and not relevant to the extent it inquires about spills, leaks and releases of solvents and other substances in response to questions 2 and 3 that did not include TCE or one of the other constituents of concern requiring response actions under CERCLA at the Del Amo Site. Shell further objects to the phrase "otherwise released to the environment" as vague and ambiguous, overbroad and unduly burdensome. For example, a wastewater stream containing very dilute amounts of CAA was handled in surface basins at the northern end of the Butadiene Plant for a period of time. Wastewater was discharged at Dominguez Channel and later to the Los Angeles County Sewer System. The context of this question ("response to the release") appears to be leaks, spills and accidental releases. A discussion of releases and spills may be found in the Remedial Investigation Report, Soil and NAPL Operable Unit (URS, June 28, 2007), specifically including section 2.3.6, pp. 40 - 42. Subject to and without waiving its general and specific objections, Shell further responds as follows: No known spills, leaks or releases of TCE occurred at the Del Amo Site during Shell's ownership, lease and/or operation of the site.

5. Please identify the plant or facility manager or managers and the environmental manager or managers at the property for all operators for which you have knowledge, prior to and after your ownership or operations, including name, current or last known address and telephone number and the dates each person identified held such position. If no person or

persons hold or held such titles, please identify as set forth above the person or persons whose duties included management of the facility and management of environmental matters for the facility.

Site organizational charts for the Torrance synthetic rubber plant are generally unavailable. However, the following responsive information is known about the Shell-operated butadiene plant (pre-1955) and the overall synthetic rubber plant post-1955: Gene Bodine was plant manager of the butadiene plant in the 1940s and upon re-start of the plant in 1950. A. Martin Voogd was Plant Manager in the 1950s; he retired in 1960 and is deceased. George Stanley Williamson was Plant Manager in the 1960s. O. Morgan Williams was Plant Manager in the late 1960s. He is deceased. Eugene Stannard Martin was Torrance plant manager from 1970 to 1972. J. Preston Ruby was the effective plant manager in 1972, at which time his title was Manager, Employee Relations. Lloyd Royce Donkle was senior/staff environmental engineer from 1962-1972. A. H. Anderegg was Manager – Environmental Conservation for the plant in the early 1970s. T.L. Keelen was Director of the ETC in the early 1970s. The subsequent owners redeveloped the property so there were no subsequent rubber plant managers.

6. Please describe any relationship between operations at the property and other nearby businesses, facilities, and operations, including, but not limited to, all businesses, facilities, and operations, past and present, within the "Normandie Strip" – that is, the area bounded by Knox Street to the North, Francisco Street to the south, Normandie Avenue to the west, and the property to the east, within Los Angeles County, California. Past and current businesses in this area include, but are not limited to, American Chemsolv, Inc., Trico Industries, B&W, Inc., B and W Incorporated, Lawson Enterprises, Ecology Control Industries (or ECI), PACCAR, Amoco, BP America, and APC, Inc. In particular, your description should include, but should not be limited to, the details of any transfer or sale of chemicals, drums, or wastes between you and any of the referenced businesses, facilities, and operations, common use of waste handling and/or chemical storage structures and facilities, common sewer line connections or drainage structures, or share operations and processing.

Shell objects to this question as vague and ambiguous. Shell objects to the undefined term "relationship" and "nearby businesses, facilities and operations." Shell has numerous relationships with Amoco and BP America, and assumes this term relates to operation of those companies at the Normandie Strip (other than pipeline operations that may incidentally pass through the Normandie Strip). Shell does not know who formerly operated within the Normandie Strip and focused its review of information on the companies listed in the question and other entities specifically known to have operations in the immediate vicinity of the Site. Subject to and without waiving its general and specific objections, Shell further responds as follows: Apart from pipelines delivering utilities and raw materials or taking finished material from the plant that may have crossed the Normandie Strip, Shell is unaware of any business relationship between Shell and the listed businesses operating within the Normandie Strip. A portion of the styrene Plancor was leased to Eston Chemical Company, which manufactured crude ethylene dibromide in the 1950s. Ethylene gas produced in the styrene plant was delivered by pipeline to the Eston facility. *See* Remedial Investigation Report, Soil and NAPL Operable Unit, p. 15 (URS,

June 28, 2007). This facility is shown on Exhibit B, and its relationship to sewer lines and drainage structures is depicted in the RI Reports. From 1955 to 1964, property was leased to American Potash & Chemical Corporation for manufacture of crude ethylene dibromide.

7. JCI (aka Jones Chemicals Incorporated or Jones) has operated a facility on or near 1401 Del Amo Boulevard, Torrance, California for several decades. Please describe any interactions between you and Jones, including but not limited to the following: any transfer or sale of chemicals, drums, or wastes, common use of waste handling and/or chemical storage structures and facilities, common sewer line connections or drainage structures, or shared operations and processing.

Shell objects to this question as vague and ambiguous. "Interactions" is vague, undefined and overbroad; Shell assumes this does not include interactions relating to any site investigation or remediation activities that may have occurred after Shell sold the Site. Subject to and without waiving its general and specific objections, Shell further responds as follows: Shell is unaware of any commercial interactions with JCI or Jones Chemicals Incorporated during its ownership and/or operation at the Site.

8. If there were any dry wells or drainage/disposal structures at the property during your operations or activities or other operators for which you have knowledge, information, or documents, please provide:

a. The date that the well was installed and the date(s) within which it received hazardous substances or wastes;

b. The total depth of the dry well or drainage/disposal structure;

c. What materials were used to backfill the well borehole, (e.g., sand, gravel, bentonite, clay, cement, etc.) when it was constructed, if any, as well as at any time after it was constructed;

d. Whether any dry well contained a casing and if so, at which depth intervals under the ground a casing is present;

e. The construction material of which any casing was composed (e.g., stainless steel, or PVC);

f. How the dry well or drainage, disposal structure was used during operations of the facilities at the property;

g. Whether the dry well or drainage/disposal structure has been destroyed and if so, the date it was destroyed, and the procedures used in the destruction/abandonment of the well.

h. For each dry well and drainage/disposal structure you identified, please indicate whether it received water in addition to waste streams, and whether boiling water

was ever placed into the dry well or structure during your operations or during the operations of any other operators for which you have knowledge, information or documents.

Shell objects to this question as overbroad, vague and ambiguous. The term "disposal structure" is undefined and could be broadly read to include any disposal area. As EPA is well aware, there were disposal pits, solid waste transfer stations, ditches, blow-down pits, burn pits, wastewater treatment, evaporation and effluent settling basins and other disposal features on or near the Del Amo site property. By its context and the nature of the sub-questions herein, Shell assumes this question relates to vertical "dry wells" which were somewhat commonly used by industrial facilities in the past for disposal of liquids. Subject to and without waiving its general and specific objections, Shell further responds as follows: A dry well of unknown construction, date and use is depicted in a map as located in the southwest corner of the 1200 area of the styrene Plancor. See Remedial Investigation Report, Soil and NAPL Operable Unit, p 21 (URS, June 28, 2007) and attached Exhibit E. A dry well is also indicated as being located in the 2600 area of the styrene Plancor. *Id.* at 23. No details regarding operation of that feature are available. Finally, a dry well was indicated within the footprint of the Eston Chemical facility in some documentation, but information regarding dates of use and the nature of any liquids that may have been disposed there is not available. *Id.* at 25.

9. Describe and provide permits and documents regarding any permits issued under State, local, or Federal environmental laws for operators on the property including, but not limited to waste or wastewater discharge permits, National Pollutant Discharge Elimination System (NPDES) permits, pretreatment permits; air, water, fire department, or hazardous material storage permits; or pursuant to the Resource Conservation and Recovery Act (RCRA). Supply any and all identification numbers supplied by local governments, the State of California, the EPA or any other governmental agency related to the handling, treatment, storage, or disposal of hazardous wastes on the property. Provide all RCRA Identification Numbers issued to you by EPA, a State, or local government, for your operations related to the property.

Shell objects to this request as vague, ambiguous and overbroad in that it does not define "environmental laws" and it is unclear of the scope of documents "regarding" permits that are requested. Furthermore Shell objects to this question as unduly burdensome in light of the substantial amount of information previously provided through site remedial investigations and the mature stage of remedial decisionmaking and implementation at this site. Shell objects to the requirement to "describe" and provide "documents" as duplicative and unduly burdensome. Finally, Shell objects to this request as overbroad and undefined in time and assumes this question relates to the period of Shell ownership and/operation of the site. More recently the following identification number has been given to the Del Amo Superfund Site: EPA I.D. # CAD029544731.

Subject to and without waiving its general and specific objections, Shell further responds as follows:

(a) Permit issued by County of Los Angeles to discharge liquid waste to Dominguez Channel (issued 11/29/45) (per article, *Industrial Waste Treatment and Disposal at the Government Synthetic Rubber Plants, Los Angeles County, Calif.* 45 Industrial and Engineering Chemistry p. 2680 (Dec. 1953)).

(b) Permit No. 55327 issued by Los Angeles County Flood Control District to operate and maintain an outlet structure on the Dominguez Channel 600 feet below Main Stree under Permit No. 45174 issued December 17, 1945 to the Office of Rubber Reserve. Date issued 7/27/55.

(c) Industrial Waste Permit No. 1448, issued by County of Los Angeles, Department of County Engineer, Industrial Waste Division, for discharge of liquid wastes into Dominguez Channel. Date issued 7/28/55. See also Remedial Investigation Report, Soil and NAPL Operable Unit, p. 27 (URS, June 28, 2007).

(d) Industrial Waste Permit No. W 16725, issued by City of Los Angeles, Department of Public Works, Bureau of Sanitation, for discharge of industrial waste liquids from 20021 South Vermont Avenue to clay pipe sewer in Vermont Street. Date issued 8/15/58. Handwritten note indicates cancelled 9/25/72.

(e) Industrial Waste Permit No. W 16933, issued by City of Los Angeles, Department of Public Works, Bureau of Sanitation for discharge of industrial waste liquids from 19821 Hamilton Ave. (South Figueroa Street) to clay pipe sewer in Del Amo Street. Material: lime soda-ash water softening – BD plant. Date issued 8/18/58. Handwritten note indicates cancelled 11/2/72.

(f) Industrial Waste Permit No. W 16241. Date issued 6/26/58. Material: cooling water from extruder and laboratory waste- BD plant.

(g) Industrial Waste Permit No. W 13767. Date issued 3/28/57. Discharges from experimental and production control laboratory – copolymer plant (19201 S. Vermont).

(h) Industrial Waste Permit No. W 13291. Date issued 3/28/57. Discharge from production control laboratory – copolymer plant (19208 S. Vermont).

(i) Industrial Waste Permit No. W 13107. Date issued 10/9/56. Discharge of laboratory wastes – styrene plant..

(j) Industrial Waste Permit No. 31119. Date issued 8/69.

(k) Industrial Waste Permit No. 34146. Industrial waste discharge from 19821 S. Hamilton Ave. to Normandie trunk sanitary sewer. Date issued 8/69. Terminaed 1972.

(l) Industrial Wastewater Discharge Permit No. 309. Date issued 3/10/73.

(m) California Regional Water Quality Control Board, Los Angeles Region, Resolution No. R68-14, for discharge of industrial wastes to Dominguez Channel adopted 2/21/68, rescinded 7/26/73.

(n) Private Dump License No. 8753C, for 19500 S. Moneta St., issued 12/18/59.

(o) Private Dump License No. 18801 for Knox dump between Main and Moneta, issued by City of Los Angeles, date issued unknown, renewal application submitted October 9, 1961

(p) Industrial Waste Disposal Permit No. 2093, issued by City of Los Angeles, Department of County Engineer, for operation of solid fill disposal facility on Moneta Avenue, date issued unknown, amended February 26, 1960.

(q) Authorization by LA County Sanitation District to discharge effluent to sanitary sewer in approximately 1951 (copy unavailable). See Remedial Investigation Report, Soil and NAPL Operable Unit, p. 31 (URS, June 28, 2007).

(r) State of California Radioactive Material License for use of radioactive materials in research. License No. 0559-70.

(s) U.S. Atomic Energy Commission Chemical By-Product Material Licenses 4-1880-1 through 5

(t) Air permits and authorizations, not all of which are known, for operations at the Site, issued by Los Angeles County Air Pollution Control District. Permit numbers include: A 3741; Permit 2726, issued 3/21/51 for effluent control area; Permit 11333 issued 6/1/54 for roof for API separator basin; Permit A 15177 issued 9/25/62 for water scrubber serving blowdown at Unit 2200 ethylbenzene production facility; Permit P 29793 issued 3/14/69 for sludge tank T-564; Permit P 29841 issued 3/14/69 for floc-acid tank T-563; Permit P 29875 issued 3/14/69 for waste water treatment plant; Permit P 40612 issued 11/12/70 for storm drain treatment plant; Permit P 46242 issued 10/7/71 for process effluent treatment plant; Permit P 51749, for operation of effluent transfer facility at 19821 South Hamilton Street, issued 2/6/73; Permit A-15296, for construction and operation of alterations to polyisoprene latex unit, issued 10/11/62; Permit P 52545 for vent relief and flare system; Permit A 3741 for isoprene polymerization pilot plant; Permit A 07017 for pilot plant batch distillation unit; Permit A 12799 for polyisoprene latex pilot plant; Permit P 41390 for pilot plant feed purification system; Permit P 42364 for solution polymer research unit; Permit P 50709 for polymer coagulator system. *See also* list of air permits at termination of plat operations attached to July 18, 1972 letter from E.S. Martin to Robert C. Murray, Air Pollution Control District, Bates # TORRANCE SS-0005063, included in Exhibit F.

(u) U.S. Army Corps of Engineers, application for permit to discharge under the Refuse Act of 1899 (permit number, if any, unknown; documentation indicates application was withdrawn in 1972).

Copies of environmental permits, applications and related documents located to date are attached as Exhibit F.

Shell hopes this information addresses EPA's questions. If further information or clarification is needed, please contact the undersigned. Shell reserves the right to supplement this Response if further information is located.

Kind regards
Shell Oil Company

Kimberly Lesniak
Senior Legal Counsel

Enclosures

cc: Jeff Dhont, EPA Region IX (via email – dhont.jeff@epamail.epa.gov) (w/o encl.)

Taly Jolish, Assistant Regional Counsel, EPA Region IX (via email – jolish.taly@epamail.epa.gov w/o enc. & via Overnight Delivery w/encl.)

George Landreth, Shell Chemical Company (via email) (w/o encl.)

2159720

Shell Oil Company's Response to
Request for Information Pursuant to
CERCLA Section 104(e)
Del Amo Facility Superfund Site
March 7, 2008

EXHIBIT A

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
1	TORRANCE	SM	0005453	0005453	None	FOLDER	None	Permanent Solvent Storage Facilities Sept '90 PTC-6		N/A for folder labels
2	TORRANCE	SM	0005460	0005465	6/12/1970	REPORT	None	Memorandum of Justification AFE No. PTC-6 June 12, 1970 Permanent Solvent Storage Facilities w/ Attachments		2a(7)&(8); 2g(7) &8; 2i(7)&(8);
3	TORRANCE	SM	0005464	0005465	7/23/1970	DIAGRAM - CHART	Kimbel, R.N.	Permanent Solvent Storage Facilities Job Number 70-39: SS 70-7006 Sheets 1 & 2		2a(7)&(8); 2g(7) &8; 2i(7)&(8);
4	None	None	None	None	None	FOLDER	None	26-10-1 Research, Development, Applications - Saturated TPR (68700) - Process (No.2)		
5	TORRANCE	SV	0001317	0001339	9/22/1970	CORRESPONDENCE	Slott, R.S. - Director Polymers Research and Development Emeryville Research Center	Torrance Production of GR and MR Polymers with attachments (9/22/1970 Granberg Memo SV0001318)		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 2m(7)&(8)
6	TORRANCE	SV	0001318	0001319	9/22/1970	CORRESPONDENCE	Granberg, N.A.	Saturated Polymer Production In Torrance TPR Facilities - preliminary Process Design w/ Appendix, Table & Diagram Attachments		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 2m(7)&(8)

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
7	TORRANCE	SV	0001320	0001326	9/22/1970	REPORT	None	Appendix Process Description For GR and MR Polymer Production In Torrance TPR Facilites		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 2m(7)&(8)
8	TORRANCE	SV	0001327	0001330	9/22/1970	REPORT	None	Table 1 Summary of Design Basis For GR and MR Polymer Manufacture From Sequential SB1, 2s and Table 2 Material Balance - 15 MM Lb/YR GR Polymer		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 2m(7)&(8)
9	TORRANCE	SV	0001331	0001331	8/24/1970	DIAGRAM-CHART	None	Process Flow Diagram 15 MM LB/YR GR or 10 MM LB/YR MR Polymer Plant II Torrance Feed Prepartion - Tank Farm Section 3500 ZCX 11590		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 2m(7)&(8)
10	TORRANCE	SV	0001332	0001332	8/24/1970	DIAGRAM-CHART	None	Process Flow Diagram 15MM LB/YR MR Polymer Plant II Torrance Polymerization Section 3800 ZCX 11591		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 2m(7)&(8)
11	TORRANCE	SV	0001333	0001333	8/20/1970	DIAGRAM-CHART	None	Process Flow Diagram 15MM LB/YR GR or 10MM LB/YR MR Polymer Plant II Torrance Hydrogenation Catalyst Preparation Section 3900 ZCX 11592		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 2m(7)&(8)
12	TORRANCE	SV	0001334	0001334	9/10/1970	DIAGRAM-CHART	None	Process Flow Diagram 15 MM LB/YR GR or 10MM LB/YR MR Polymer Plant II-Torrance Hydrogenation Section 3900 ZCX 11593		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 2m(7)&(8)

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13	TORRANCE	SV	0001335	0001335	8/27/1970	DIAGRAM- CHART	None	Process Flow Diagram 15 MM LB/YR GR OR 10 MM LB/YR MR Polymer Plant II-Torrance Catalyst Removal Section 3900 ZCX-11594		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 2m(7)&(8)
14	TORRANCE	SV	0001336	0001336	9/15/1970	DIAGRAM-CHART	None	Process Flow Diagram 15 MM LB/YR GR OR 10 MM LB/YR MR Polymer Plant II Torrance Cement Storatge & Blending Section 3800 ZCX-11595		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 2m(7)&(8)
15	TORRANCE	SV	0001337	0001337	9/14/1970	DIAGRAM CHART	None	Process Flow Diagram 15 MM LB/YR MR Polymer plan II Torrance Coagulation & Solvent Recovery Section 3800 ZCX-11596		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 2m(7)&(8)
16	TORRANCE	SV	0001338	0001338	9/16/1970	DIAGRAM CHART	None	Process Flow Diagram 15 MM LB/YR GR or 10 MM LB/YR MR Polymer Plant II Torrance Solvent Purification Section 1400(Plus 3500 feed storage ZCX-11597		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 2m(7)&(8)
17	TORRANCE	SV	0001339	0001339	9/11/1970	DIAGRAM CHART	None	Process Flow Diagram 15 MM LB/YR GR OR 10 MM LB/YR MR Polymer Plant II Torrance Crumb Drying And Packaging Section 5000 ZCX-11598		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 2m(7)&(8)
18	TORRANCE	SG	0045393	0045393	None	FOLDER	None	6444-00 Improvement of Waste Oil Facilities; 8427-00 Styrene Plant - 64-82 608-35E		

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19	TORRANCE	SG	0045485	0045490	11/19/1964	REPORT	None	Memorandum of Justification AFE No. SRT 463 Date 12-7-04 Improvement of Waste Oil Facilities - Styrene Plant w/ attachments		2a(5); 2b(5)
20	TORRANCE	SG	0045487	0045487	11/18/1964	CORRESPONDENCE	Harrington, G.R. - Manager Engineering	Confirming Forwarding of "288" w/ Attachments		2a(5); 2b(5)
21	TORRANCE	SG	0045488	0045490	9/11/1964	REPORT	None	Memorandum of Justification AFE No. - Improvement of Waste Oil Facilities - Styrene Plant		2a(5); 2b(5)
22	TORRANCE	SG	0045487	0045490	11/15/1964	CORRESPONDENCE	Harrington G. R.	Confirming Forwarding of "288" With Attachments (Undated Report - Memorandum of Justification AFE SG-0045488-0045490)		
23	TORRANCE	SG	0045488	0045490	None	REPORT	None	Memorandum Of Justification AFE No. Improvement Of Waste Oil Facilities - Styrene Plant		
24	TORRANCE	SJ	0007541	0007541	None	FOLDER	None	SRT - 482 = Improvement of Plant Effluent Treatment		

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25	TORRANCE	SJ	0007564	0007571	None	REPORT	None	Memorandum Of Justification AFE No. Improvement Of Plant Effluent Treatment		
26	TORRANCE	SJ	0007569	0007570	None	REPORT	None	Appendix Design Data For Separator Basins From API "Manual On Disposal Of Refinery Wastes", Volume I (Part of Memorandum of AFE No. SRT 482 Improvement of Plant Effluent Treatment SJ 0007564)		
27	TORRANCE	SJ	0007571	0007571	9/17/1965	REPORT	McCulloch W. M.	Shell Chemical Company A Division of Shell Oil Company Torrance Plant - Estimated Cost Summary (Part of Memorandum of AFE No. SRT 482 Improvement of Plant Effluent Treatment SJ 0007564)		
28	TORRANCE	SG	0045503	0045503	None	FOLDER	None	Disposal Of Waste Rubber Material - Torrance Plant		
29	TORRANCE	SG	0045526	0045532	None	REPORT	None	Memorandum of Justification AFE No. 445 Disposal Of Waste Rubber Material - Torrance Plant		
30	TORRANCE	SG	0045530	0045532	3/6/1964	CORRESPONDENCE	Harrington, G. R. - Manager Engineering	Confirming Forwarding of "288" with attachments		

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31	TORRANCE	SG	0045531	0045532	None	REPORT	None	Memorandum of Justification AFE Disposal of Waste Rubber Material -Torrance Plant (Attached to 3/6/1964 Interoffice Memo from G.R. Harrington Re: Confirmed forwarding of "288" SG0045530)		
32	TORRANCE	SQ	0011176	0011176	None	FOLDER	None	Rail Car Fleet Control System - Misc Info 1970		
33	TORRANCE	SQ	0011695	0011706	None	REPORT	None	Suggested Report Desc (01- 01307 - PETOIL Not On Latest Sht 5/1/1971) M37056; Box 249		
34	TORRANCE	SQ	0011198	0011216	None	REPORT	None	Shell Oil Company - Commodity Descriptions and Preparation of Bills of Lading - General Instructions		
35	TORRANCE	SR	0033181	0033211	9/6/1972	CORRESPONDENCE	Myers, William H. - Patents and Licensing Division - Head Office	Block Copolymer Survey IVS 5-48 w/ attachments (Patents SR0033182-SR0033211)	Confidential Patent Information	
36	TORRANCE	SR	0033182	0033198	8/29/1972	REPORT	None	Shell Patents; U.S. Block Copolymer Patents (Attached to 9/6/1972 Interoffice Memo from William H Meyers Re: Block Copolymer Survey IVS S-48 - SR0033181)	Confidential Patent Information	

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37	TORRANCE	SR	0033199	0033211	8/29/1972	REPORT	None	Foreign Block Copolymer Patents	Confidential Patent Information	
38	TORRANCE	SL	0018376	0018379	03/01/69	REPORT	None	Torrance Plant Cost by Product Summary March 1969		2
39	TORRANCE	SL	0018380	0018388	03/01/69	REPORT	None	Accounting Stock Movement Statement - Shell Chemical Company March 1969		2, 2e(8); 3e(2)
40	TORRANCE	SQ	0017065	0017066	10/01/67	RECORD	None	Shell Chemical Contract - Torrance Plan Abstract Of Production & Inventories October, 1967		
41	TORRANCE	SQ	0017067	0017068	09/01/67	RECORD	None	Shell Chemical Contract - Torrance Plant Abstract Of Production & Inventories September, 1967		
42	TORRANCE	SI	0020952	0021012	None	REPORT	None	Shell Chemical Company - Torrence Plant - Operating Expenses Year, 1966		2a(7)&(8); 2d(7)&(8); 2e(1); 2e(8); 3; 3(e)(2)
43	TORRANCE	SN	0001817	0001836	None	RECORD	None	(Handwritten Notes) May, 1968 w/ attachments (ASM Purchases; Summary of Purchases & Interdivision Transfers May 1968 SN 0001825; May 1968 Quantity Information SN 0001826; Weekly Propane Receipts SN 0001827; E-24, SF 371, ICD For E-28 SN 0001829; Benzene R)		2h(3) & (8);3; 3e(2); 3f(2);

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44	TORRANCE	SN	0001824	0001824	None	REPORT	None	ASM Purchases - May '68 (Part of May 1968 Handwritten Notes SN 0001817)		2h(3) & (8);3; 3e(2); 3f(2);
45	TORRANCE	SN	0001825	0001825	None	REPORT	None	Torrance Plant Summary of Purchases and Interdivision Transfers May-1968 (Part of May 1968 Handwritten Notes SN 0001817)		2h(3) & (8);3; 3e(2); 3f(2);
61	TORRANCE	SN	0001826	0001826	None	REPORT	None	Quantity Information - May 1968 (Part of May 1968 Handwritten Notes SN 0001817)		2h(3) & (8);3; 3e(2); 3f(2);
62	TORRANCE	SN	0001827	0001828	None	REPORT	Guire, Bob	LA Weekly Monday AM Propane Receipts - Via Truck Cal-Liquid for Shell Chem Acct. - PD-70 May 1968		
63	TORRANCE	SN	0001829	0001831	None	REPORT	None	E-24; SF 371; ICD For E-28		
64	TORRANCE	SN	0001832	0001833	None	REPORT	None	Benzene Receipts - Tank Car Shell Oil Co. - Odessa Plant May 1968		2

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65	TORRANCE	SN	0001834	0001836	11/8/1966	RECORD	None	May 1968 Stream: Amyolene from Shell; Residual To Shell; Tolusol To Shell		2
66	TORRANCE	SG	0045622	0045655	01/01/66	REPORT	Montgromery Research Inc. Pasadena CA	Shell Chemical Co. Review Of Proposed Plant Effluent Treatment System January 1966		9
67	TORRANCE	SG	0045624	0045624	1/13/1966	CORRESPONDENCE	Aultman W. W.- President; Homgren, Jr., R.S. - Project Engineer	Transmittal Review Of Proposed Plant Effluent System (Part of Montgomery Research Report SG45622)		9
68	TORRANCE	SG	0045655	0045655	None	DIAGRAM-CHART		Shell Chemical Company Proposed Waste Treatment Plant (Montgomery Research Report SG 00045622-00045655)		9
69	TORRANCE	SN	0027012	0027026	6/24/1968	REPORT	None	Master Increase Supplement No. 1 - To Be Used with Freight Rate Schedules Issued by Traffic - West Coast Applicable on Rail Interstate Traffic Effective 06/24/1968 w/ attachments (Incoming Commodities SN 0027013)		

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70	TORRANCE	SN	0027013	0027026	None	REPORT	None	Attachments To Master Increase Incoming Commodities (Other than Shell's Products) Plants & Refineries SN 002713; Agricultural Chemicals Division Commodities SN 002715; Ammonia Division Commodities; Industrial Chemicals Division Commodities SN 002717; Shel		
71	TORRANCE	None	None	None	03/01/70	REPORT	None	Torrance Plant Summary Of Purchases And Interdivision Transfers March 1970		2e(1)&(8); 3e(2)
72	TORRANCE	SN	0008386	0008386	02/01/70	REPORT	None	Torrance Plant Summary Of Purchases And Interdivision Transfers February, 1970		2e(1)&(8); 3e(2)
73	TORRANCE	SN	0007353	0007353	09/01/70	REPORT	None	Torrance Plant Summary Of Purchases And Interdivision Transfers August 1970		2e(1)&(8); 3e(2)
74	TORRANCE	SN	0007721	0007721	06/01/70	REPORT	None	Torrance Plant Summary Of Purchases And Interdivision Transfer June 1970		2e(1)&(8); 3e(2)
75	TORRANCE	SN	0006180	0006180	11/01/70	REPORT	None	Torrance Plant Summary Of Purchases And Interdivision Transfer November 1970		2e(1)&(8); 3e(2)

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76	TORRANCE	SN	0006841	0006841	09/01/70	REPORT	None	Torrance Plant Summary Of Purchases And Interdivision transfer September 1970		2e(1)&(8); 3e(2)
77	TORRANCE	SN	0008055	0008055	05/01/70	REPORT	None	Torrance Plant Summary Of Purchases And Interdivision transfer May 1970		2e(1)&(8); 3e(2)
78	TORRANCE	SN	0006577	0006577	10/01/70	REPORT	None	Torrance Plant Summary Of Purchases And Interdivision transfer October 1970		2e(1)&(8); 3e(2)
79	TORRANCE	SN	0007879	0007879	04/01/70	REPORT	None	Torrance Plant Summary Of Purchases And Interdivision transfer April 1970		2e(1)&(8); 3e(2)
80	TORRANCE	SI	0015421	0015421	None	FOLDER	None	Oct. Ethyl Chloride		
81	TORRANCE	SI	0015422	0015440	None	RECORD	None	Adding Machine Tape		
82	TORRANCE	SI	0015423	0015423	10/15/1971	RECORD	Shipper-American Chemical Corporation; Agent- Petrolane Transport	Transportation Memorandum - American Chemical Corporation Carrier No. M-04855; Petrolane Transpor; Article American Ethyl Chloride		3e(2); 3f(2)

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83	TORRANCE	SI	0015424	0015424	10/15/1971	RECORD	Petrolane	Transportation Memorandum - Petrolane Transport # 53932 Commodity Ethyl Chloride		3e(2); 3f(2)
84	TORRANCE	SI	0015425	0015425	10/15/1971	RECORD	Shell	Weight Ticket & Loading Order # 963260		3e(2); 3f(2)
85	TORRANCE	SI	0015426	0015426	10/15/1971	RECORD	Shipper-American Chemical Corporation; Agent- Petrolane Transport	Memorandum Transportaion - American Chemical Corporation Carrier No. M-04856;Petrolane Transport Article American Ethyl Chloride		3e(2); 3f(2)
86	TORRANCE	SI	0015427	0015427	10/15/1971	RECORD	Petrolane	Transportation Memo Petrolane Transport # 53933 Commodity Ethyl Chloride		3e(2); 3f(2)
87	TORRANCE	SI	0015428	0015428	10/15/1971	RECORD	Shell	Weight Ticket & Loading Order # 963286 Commodity Ethyl Chloride		3e(2); 3f(2)
88	TORRANCE	SI	0015429	0015429	10/1/1971	RECORD	Shipper-American Chemical Corporation; Agent- Petrolane Transport	Memorandum Transportaion - American Chemical Corporation Carrier No. M-04852 Petrolane Transport Article America Ethyl Chloride		3e(2); 3f(2)
89	TORRANCE	SI	0015430	0015430	10/18/1971	RECORD	Shell	Weight Ticket & Loading Order # 35282 Commodity Ethyl Chloride		3e(2); 3f(2)

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90	TORRANCE	SI	0015431	0015431	10/1/1971	RECORD	Petrolane	Transportation Memo Petrolane Transport # 53904 Commodity Ethyl Chloride		3e(2); 3f(2)
91	TORRANCE	SI	0015432	0015432	10/1/1971	RECORD	Shipper-American Chemical Corporation; Agent- Petrolane Transport	Memorandum Transportation - American Chemical Corporation Carrier No. M-04853 Petrolane Transport Article America Ethyl Chloride		3e(2); 3f(2)
92	TORRANCE	SI	0015433	0015433	10/1/1971	RECORD	Shell	Weight Ticket & Loading Order # 35279 Commodity Ethyl Chloride		3e(2); 3f(2)
93	TORRANCE	SI	0015434	0015434	10/1/1971	RECORD	Petrolane	Transportation Memo Petrolane Transport # 53905 Commodity Ethyl Chloride		3e(2); 3f(2)
94	TORRANCE	SI	0015435	0015435	10/28/1971	RECORD	Shipper-American Chemical Corporation; Agent- Petrolane Transport	Memorandum Transportation - America Chemical Corporation Carrier No. M-04876 Petrolane Transport Article America Ethyl Chloride		3e(2); 3f(2)
95	TORRANCE	SI	0015436	0015436	10/28/1971	RECORD	Petrolane	Transportation Memo Petrolane Transportation # 54240 Commodity Ethyl Chloride		3e(2); 3f(2)
96	TORRANCE	SI	0015437	0015437	10/28/1971	RECORD	Shell	Weight Ticket & Loading Order # 34895 Commodity Ethyl Chloride		3e(2); 3f(2)
97	TORRANCE	SI	0015438	0015438	10/28/1971	RECORD	Shipper-American Chemical Corporation; Agent- Petrolane Transport	Transportation Memorandum - American Chemical Corporation Carrier M-04875; Petrolane Transport; Article American Ethyl Chloride		3e(2); 3f(2)

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98	TORRANCE	SI	0015439	0015439	10/28/1971	RECORD	Petrolane	Transportation memoradum Petrolane Transport # 54239 Commodity; Ethyl Chloride		3e(2); 3f(2)
99	TORRANCE	SI	0015440	0015440	10/28/1971	RECORD	Shell	Weight Ticket & Loading Order # 34886 Commodity; None		3e(2); 3f(2)
100	TORRANCE	SJ	0005525	0005525	None	FOLDER	None	SRD - 65 Local Approval Research - Oct '64		3b(3); 3d(3); 3e(3); 3j(3)
101	TORRANCE	SJ	0005532	0005532	None	RECORD	None	Shell Chemical Company - Division Office Request for Expenditures - Purchase of Westronics Two Channel Recorder		3b(3); 3d(3); 3e(3); 3j(3)
102	TORRANCE	SI	0017493	0017493	None	FOLDER	None	2000 GLC Analysis Aug. 71		3b(3); 3d(3); 3e(3); 3j(3)
103	TORRANCE	SI	0017494	0017494	8/3/1971	RECORD	None	2000 Unit Analysis Date Aug 3 1971		3b(3); 3d(3); 3e(3); 3j(3)
104	TORRANCE	SI	0017523	0017523	8/30/1971	REPORT	None	2000 Unit Analysis Date Aug 30 1971		3b(3); 3d(3); 3e(3); 3j(3)
105	TORRANCE	SJ	0006294	0006294	None	FOLDER	None	SRT-515 Carbon Towers for CAA Solvent Clean-up September, 1966		2a(1)
106	TORRANCE	SJ	0006298	0006302	None	REPORT	None	Memorandum of Justification AFE No. SRT-515, December, 1966 Carbob Towers for CAA Solvent Clean-Up		2a(1); 2d(1); 2j(1)
107	TORRANCE	SK	0022840	0022840	None	FOLDER	None	Petro-Chem Wires - 1970 (Receipts & Shipments) 3rd Work Day		

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108	TORRANCE	SK	0022847	0022847	None	CORRESPONDENCE	Grover, N.K.	Telegram - Transactions for the Month of December 1970 Between PCD and Polymers Division; Transactions for the Month of November 1970 Between PCD and Polymers Division - Torrance		2; 2e(8); 2f(8)
109	TORRANCE	SK	0022849	0022849	11/01/70	RECORD	Grover, N.K.	Telegram - HGH-PCD Operations Attn: R.E. Angel Distruiton Supervisor - Transactions for the Month of November1970 Between PCD and Polymers Division - Torrance		2; 2e(8); 2f(8)
110	TORRANCE	SK	0022853	0022853	09/01/70	RECORD	Grove, N.K.	Telegram - HGH-PCD Operations Attn: R.E. Angel Distruiton Supervisor - Transactions for the Month of September 1970 Between PCD and Polymers Division - Torrance		2; 2e(8); 2f(8)
111	TORRANCE	SJ	0013530	0013530	None	FOLDER	None	AFE T-377		
112	TORRANCE	SJ	0013571	0013577	11/17/1960	RECORD	Whitney, R.P.	Shell Chemical Corporation - Torrance Plant Request For Expenditure Proposal 564 Job Estimate 60-167 (Part of Undated Memorandum Justification AFE No._ Chemical Cleaning Slab Extension SJ-0013572)		
113	TORRANCE	SJ	0013572	0013574	None	REPORT	None	Memorandum Of Justification AFE No. _ Chemical Cleaning Slab Extension		

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114	TORRANCE	SJ	0013575	0013575	1/20/1961	RECORD	Webber, L.W.	Shell Chemical Company Torrance Plant Estimated Cost Summary Chemical Cleaning Slab Extension Job Estimate No. 60-167; (Part of Memorandum Justification AFE No._ Chemical Cleaning Slab Extension SJ-0013572		
115	TORRANCE	SJ	0013576	0013576	1/20/1961	RECORD	Webber, L.W.	Shell Chemical Company Torrance Plant Equipment Retirement or Transfer Report Est. 60-167 (Blank Form)		
116	TORRANCE	SJ	0013577	0013577	1/20/1961	RECORD	Webber, L.W.; Levada, J.	Desgin Description for Chemical Cleaning Slab Extension Estimate No. 60-167 RE: Slab and craneway extension and holding pit installation (Part of Undated Memorandum Justification AFE No._ Cleaning Slab Extension SJ-0013572)		
117	TORRANCE	SI	0017748	0017748	None	FOLDER	None	Pumpers Report Aug. 71 (M36902 Box 129)		
118	TORRANCE	SI	0017749	0017751	8/1/1971	RECORD	Gauger	Styrene Department Section: Utility-Product Movements and Tank Gauges (Form TMU 2661-1; EFC 6-26-69)		

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119	TORRANCE	SI	0017784	0017787	8/10/1971	RECORD	Gauger	Styrene Department Section: Utility - Product Movements and Tank Gauges (Form TMU 2661-1; EFC 6-26-69)		
120	TORRANCE	SI	0017824	0017827	8/20/1971	RECORD	Gauger	Styrene Department Section: Utility - Product Movements and Tank Gauges (Form TMU 2661-1; EFC 6-26-69)		
121	TORRANCE	SI	0017869	0017872	8/31/1971	RECORD	Gauger	Styrene Department Section: Utility - Product Movements and Tank Gauges (Form TMU 2661-1; EFC 6-26-69)		
122	TORRANCE	SH	0011144	0011144	None	CORRESPONDENCE	None	(Handwritten Notes) Chemicals To be Used and/or Stored In The New Wing of the Copolymer Laboratory		3e(3)
123	TORRANCE	SI	0017525	0017525	8/1/71	FOLDER	None	Lab Analysis Aug. 1971		
124	TORRANCE	SI	0017526	0017526	8/2/1971	RECORD	None	Shell Chemical Company Torrance Styrene Plant (Form TMU 2605-5; AJG;gld Rev 12/02/1963)		
125	TORRANCE	SI	0017527	0017527	8/2/1971	RECORD	None	Shell Chemcial Company Torrance Plant Butadiene-Isoprene Units - Sphere Area Daily Analysis (Form: Tmu 2710-1Dist.: RWW (4); JWA ;Tech Dept)		

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126	TORRANCE	SI	0017531	0017531	8/9/1971	RECORD	None	Shell Chemical Company Torrance Styrene Plant (Form: TMU 2605-5 AJG:gld Rev. 12/2/1963)		
127	TORRANCE	SI	0017532	0017532	8/9/1971	RECORD	None	Ethylbenzene Dehydrogenation Survey - 1300 Unit (Form TMU-42; 1/21/1971)		
128	TORRANCE	SI	0017543	0017543	8/12/1971	RECORD	None	Shell Chemical Company Torrance Styrene Plant (Form: TMU 2605-5; AJG:gld Rev. 12/2/1963)		
129	TORRANCE	SI	0017544	0017544	8/19/1971	RECORD	None	Shell Chemical Company Torrance Plant - Butadiene-Isoprene Units - Sphere Area-Daily Analyses (Form: TMU 2710-1 Dist: RWW(4); JWA; Tech Dept)		
130	TORRANCE	SI	0017555	0017555	8/30/1971	RECORD	None	Shell Chemical Company Torrance Styrene Plant (Form: TMU 2605-5; AJG;gld Rev. 12/2/1963)		
131	TORRANCE	SI	0017556	0017556	8/30/1971	RECORD	None	Ethylbenzene Dehydrogenation Survey - 1300 Unit (Form TMU-42; 01/21/1971)		

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132	TORRANCE	SI	0017557	0017557	8/30/1971	RECORD	None	Shell Chemical Company Torrance Styrene Plant Lab Analysis		
133	TORRANCE	SI	0017558	0017558	08/27-29/1971	RECORD	None	Shell Chemical Company Torrance Styrene Plant Lab Analysis		
134	None	None	None	None	10/01/71	REPORT	None	(Handwritten Notes) Styrene Unit Off Gas Data for APCD Report		
135	TORRANCE	SI	0015594	0015594	11/01/71	REPORT	None	(Handwritten Notes) Fuel Oil Used In Bbls		
136	TORRANCE	SI	0015593	0015593	None	REPORT	Westoil Terminals Co.	Shell Chemical Corporation Torrance Plant Stock Movement Report Month of October, 1971		6
137	TORRANCE	SI	0015592	0015592	10/01/71	REPORT	None	Shell Chemical Company Dominquez Plant Propane Propylene Stream from Torrance October, 1971		

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
138	TORRANCE	SI	0015591	0015591	10/01/71	REPORT	Baker, Maureen - Styrene Unit	Shell Chemical Company Torrance Plant October, 1971 Styrene/Ethylbenzene Exchange Acct. of Rexene Polymer		
139	TORRANCE	SI	0015590	0015590	10/01/71	REPORT	None	(Handwritten Notes) Sytrene Production Calculation In Lbs.		
140	TORRANCE	SI	0015589	0015589	None	REPORT	None	(Handwritten Notes) Styrene Finishing Unit Process Inventories By Components Oct, 1971		
141	TORRANCE	SI	0015588	0015588	10/01/71	REPORT	None	(Handwritten Notes) Ethylbenzene Unit Benzene Receipts & Usage Oct., 1971		
142	TORRANCE	SI	0015587	0015587	None	REPORT	None	(Handwritten Notes) Ethylbenzene Unit		
143	TORRANCE	SI	0015586	0015586	10/01/71	REPORT	None	(Handwritten Notes) Inventory Summary E.B. Unit Oct., 1971		
145	TORRANCE	SI	0015585	0015585	10/01/71	REPORT	None	(Handwritten Notes) Ethylene Unit B.D. Fractiont to B.D. Unit Oct., 1971 in Lbs		
146	TORRANCE	SI	0015584	0015584	10/01/71	REPORT	None	(Handwritten Notes) Propane/Butane Receipts Summary		
147	TORRANCE	SI	0015583	0015583	11/1/1971	REPORT	Gauger	Shell Chemical Company Torrance Plant Styrene Department Tank Daily Control Data Farm Gauges 11/1/1971		6

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
148	TORRANCE	SI	0015582	0015582	11/1/1971	REPORT	Gauger	Shell Chemical Company Torrance Plant Styrene Department Daily Control Data 2400 Unit 11/01/1971		
149	TORRANCE	SI	0015581	0015581	11/1/1971	REPORT	Gauger	Shell Chemical Company Torrance Plant Styrene Department Daily Control Data 2200 Unit 11/01/1971		
150	TORRANCE	SI	0015580	0015580	11/1/1971	REPORT	Gauger	Shell Chemical Company Torrance Plant *Styrene Department Daily Control Data* 1400 Unit 11/01/1971		
151	TORRANCE	SI	0015579	0015579	11/1/1971	REPORT	Gauger	Shell Chemical Company Torrance Plant Styrene Department Daily Control Data 1200 Unit 11/01/1971		2g(5); 3g(2)
152	TORRANCE	SI	0015578	0015578	11/1/1971	REPORT	None	Shell Chemical Company Torrance Plant Styrene Unit - Ethylene Closing Gages 11/01/1971		
156	TORRANCE	SI	0015596	0015602	10/1971; 11/01/1971; 11/08/1971	REPORT	None	Shell Chemical Company Chemical Month-End Stock Accounting System Addition, Deletion and Correcting Transactions (SC401-8)		2; 3e(2)
157	TORRANCE	SU	0008823	0008849	None	REPORT	None	SBR Polymerization Recipes: 1)CH-24, Fatty Acid Soap Polymer - 10/17/1960; 2) Hot Rubber - 06/08/1961; 3) CH-21, Fatty Acid Soap Polymer - 06/08/1960; 4) Hot Rubber - 03/03/1961; 5) CH-23, Dresinate Soap Polymer - 06/10/1960; 6) Fatty Acid Soap Polymer -		

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
158	TORRANCE	SV	0011409	0011409	1974	FOLDER	None	26-4-6A Research, Dev, Applications - 1974 Proc Dev - Proj Kraton II - General		
159	TORRANCE	SV	0011461	0011462	5/13/1974	CORRESPONDENCE	Champ, C. A.	Vapor/Liquid Equilibrium Data For MK2 Solvent Recovery Column Design With Attachments		2a(7); 2d(7)
160	TORRANCE	SV	0011462	0011462	5/9/1974	REPORT	None	Components To Be Included In The Design Of The MK2 Solvent Fractionation System (Part of 5/13/1974 Interoffice Memorandum From C.A. Champ RE: Vapor/Liquid Equilibrium Data SV-0011461)		2a(7); 2d(7)
161	TORRANCE	SS	0007314	0007314	None	FOLDER	None	24-9-3 Environmental General		
162	TORRANCE	SS	0007850	0007851	7/5/1974	CORRESPONDENCE	Keelen, T. L.	Letter from T.L. Keelen, Director, Shell Development Co. to John D. Parkhurst, County Sanitation Districts of Los Angeles County attaching completed LA County Sanitation Districts Industrial Wastewater Critical Parameter Report Form # 3.		3; 9

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
163	TORRANCE	SS	0007363	0007364	12/4/1973	CORRESPONDENCE	Keelen, T.L.	Letter from T.L. Keelen, Director, Shell Development Co. to John D. Parkhurst, County Sanitation Districts of Los Angeles County attaching completed LA County Sanitation Districts Industrial Wastewater Critical Parameter Report Form # 2.		3a(3); 3c(3); 9
164	TORRANCE	SS	0007595	0007596	2/1/1973	CORRESPONDENCE	Keelen, T. L.	Letter from T.L. Keelen, Director, Shell Development Company to John D. Parkhurst, County Sanitation Districts of Los Angeles County re: resubmittal of application for a Permit for Industrial Wastewaster with attachments		9
165	TORRANCE	SS	0007597	0007600	None	CORRESPONDENCE	None	Permit for Industrial Wastewater Discharge (List Of Attachments)		9
166	TORRANCE	SS	0007598	0007598	None	CORRESPONDENCE	None	Attachment 4. Shell Development Company ETC Process and Storage Tanks Information (Part of List of Attachments SS-0007597)		9
167	TORRANCE	SS	0007599	0007600	None	REPORT	None	Attachment 5. Shell Development Company ETC Process Development Facility (PDF) Process Description (Part of List of Attachments SS-0007597)		2j(7)&(8); 9

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168	TORRANCE	SS	0007601	0007602	1/23/1973	CORRESPONDENCE	Anderegg, A. H.	Letter from A.H. Anderegg, Manager Services, Shell Development Co. to Department of Water & Power attn: Geroge W. Adrian, attaching Test Report With attchments;Report for a backflow prevention device on fire water system (01/31/1973 Backflow Test Result SS-0007602)		9
169	None	None	None	None	None	FOLDER	None	24-6 Technologies - F & DA (No bates number)		
170	TORRANCE	SS	0004092	0004150	None	REPORT	None	(Draft) Safety Evaluation of Shell's Kraton Thermoplastic Elastomers Products in Food Contact Application		2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2f(7)&(8); 2j(7)&(8); 3a(3); 3d(3);
171	TORRANCE	SS	0004821	0004860	None	REPORT	Shell Chemical Company	Spill Contingency Plan - Polymers Division Torrance Plant		2; 2a(2),(3),(4),(7)&(8); 2b(2),(3),(4),(7)&(8); 2c(2),(3),(4),(7)&(8); 2g(2),(3),(4),(7)&(8); 5; 9

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
172	TORRANCE	SS	0004288	0004358	4/9/1974	REPORT	Shell Chemical Company	Safety Evaluation of Shell's KRATON G Thermoplastic Rubber Products in Food Contact Applications (A Styrene Hydrogenated Butadiene Styrene Block Copolymer) Supplement 1	Private and Confidential; Shell Trade Secrets	2a(7)&(8); 2b(7)&(8); 2d(7)&(8); 2j(7)&(8); 3a(3); 3d(3); 3j(3)
173	TORRANCE	SS	0004291	0004293	None	REPORT	None	Attachment I-A Shell Chemical Company FAP 1B2591 Quantities Of Cyclohexane and Ispentane Used As Reaction Solvents In Production Of Styrene Block Polymer With 1,3 - Butadiene	Private and Confidential; Shell Trade Secrets	
174	TORRANCE	SS	0004905	0004905	1972	FOLDER	None	1972 - 24-9 Technologies - Environmental		
175	TORRANCE	SS	0004957	0005048	11/21/1972	REPORT	None	Attachment 1 - Sanitation Districts of Los Angeles County Industrial Wastewater Critical Parameter Report Form (08/25/1972)		3, 9
176	TORRANCE	SS	0005037	0005040	8/25/1972	CORRESPONDENCE	Keelen, T.L. - Director-Elastomers Technical Center	Interoffice Memorandum to Shell Oil Company - Wilmington-Dominguez Refinery Manager from T.L. Keelen, Director - Elastomers Technical Center RE: Process Effluent		3, 9

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177	TORRANCE	SS	0005048	0005048	8/16/1972	CORRESPONDENCE	Keelen, T.L. - Director-Elastomers Technical Center	Interoffice Memorandum to Wilmington - Dominguez Purchasing Manager re: Disposal of Clean Solvent		2a(7)&(8); 2b(7)&(8); 2d(7)&(8)
178	TORRANCE	SS	0003720	0003720	1/1/71	REPORT	None	Torrance Plant Summary Of Purchases And Interdivision Transfers January 1971 Polymers Divisions		2a(8); 2b(8); 2e(8); 3a(2); 3b(2); 3e(2)
179	TORRANCE	SS	0004346	0004347	4/6/1971	REPORT	None	Shell Chemical Company Recipe Master Listing Torrance Plant Master Control Stock Ledgerp.67 and p.72		
180	TORRANCE	SS	0010831	0010836	2/11/1964	CORRESPONDENCE	Keldsen, V. L..	Review of Shell Development Preliminary Process Evaluation For Chloropene Manufacture (Attached to 2/5/1964 Interoffice Memorandum from J.A. Langton RE: Review of Shell Development Preliminary Process Evaluation For Chloroprene Manufacture SS-0010832)	Private and Confidential	
181	TORRANCE	SS	0010832	0010836	2/5/1964	CORRESPONDENCE	Langton, J. A.	Review of Shell Development Preliminary Process Evaluation For Chloropene Manufacture With Attachments: Appendix I (Hydrogen omitted for simplification)	Private and Confidential	

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
182	TORRANCE	SS	0010835	0010836	None	Report	None	Appendix I (Hydrogen omitted for simplification) (Part of 2/5/1964 Interoffice Memorandum from J.A. Langton RE: Review of Shell Development Preliminary Process Evaluation For Chloroprene Manufacture SS-0010832)	Private and Confidential	
183	TORRANCE	SG	0043491	0043540	None	REPORT	Thayer, D.S.	Polystyrene Process Manual - Torrance Plant		
184	TORRANCE	SO	0019431	0019431	None	FOLDER	None	American Potash & Chemical Company		6
185	TORRANCE	SO	0019432	0019443	3/23/1965	CORRESPONDENCE	Williamson, G.S. - Plant Manager	Completion of Restoration Work w/ attached correspondence and records		6
186	TORRANCE	SO	0019433	0019433	3/22/1965	CORRESPONDENCE	Harrington, G.R.	Completed demolition		6
187	TORRANCE	SO	0019434	0019436	12/7/1964	CORRESPONDENCE	Cornelius, L.H.	Transmittal 12/24/1964 Termination of Agreement, Quitclaim and Release between Shell Chemical Corp and American Potash & Chemical Corporation		6
188	TORRANCE	SO	0019435	0019436	12/24/1964	RECORD	Shell Chemical Company; American Potash & Chemical Corporation	Termination Agreement Quitclaim and Release between Shell Chemical and American Potash		6

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
189	TORRANCE	SO	0019437	0019437	3/10/1965	CORRESPONDENCE	Williamson, G.S. - Plant Manager	Plant access by a licensed contractor (References agreement dated April 22, 1955)		6
190	TORRANCE	SO	0019441	0019443	4/22/1955	RECORD	Shell Chemical Company; American Potash & Chemical Corporation	Plant Site Lease dated April 22, 1955 between Shell Chemical Corporation and American Potash & Chemical Corporation		6
191	TORRANCE	SJ	0004119	0004119	None	FOLDER	None	SRT 413		
192	TORRANCE	SJ	0004122	0004124	9/19/1962	REPORT	None	Memorandum Of Justificartion AFE No. SRT 413 09/16/1962 Solvent Handling Facilities For Polyisoprene Latex		2a(8); 2b(8); 2c(8); 2g(8); 2j(8)
193	TORRANCE	SJ	0003971	0003971	None	FOLDER	None	SRT 422		
194	TORRANCE	SJ	0003974	0003976	3/13/1963	CORRESPONDENCE	None	Memorandum of Justification AFE No. P&BB Pipeline From South Tank Farm To Propane Cracking Furnances - Styrene Plant		2a(5)&(6); 2b(5)&(6) 2d(5)&(6); 2f(5)&(6); 2g(5)&(6); 2i(5)&(6); 2j(5)&(6)
195	TORRANCE	SH	0020432	0020432	1970	FOLDER	None	Yard Checks - Styrene Plant - January-June 1970		

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196	TORRANCE	SH	0020453	0020453	6/16/1970	REPORT	None	Shell Chemical Company - Torrance, Calif. - Rail Car On Hand Report Styrene Plant Location		
197	TORRANCE	SI	0020457	0020457	6/12/1970	REPORT	None	Shell Chemical Company - Torrance, CA Rail Car On Hand Report Styrene Plant Location		
198	TORRANCE	SI	0020461	0020461	6/10/1970	REPORT	None	Shell Chemical Company Torrance, CA Rail Car On Hand Report Styrene Plant Location		
199	TORRANCE	SI	0020464	0020464	6/9/1970	REPORT	None	Shell Chemical Company Torrance, CA Rail Car On Hand Report Styrene Plant Location		
200	TORRANCE	SI	0020481	0020481	5/26/1970	REPORT	None	Shell Chemical Company Torrance, CA Rail Car On Hand Report Styrene Plant Location		
201	TORRANCE	SI	0020483	0020483	5/25/1970	REPORT	None	Shell Chemical Company Torrance CA Rail Car On Hand Report Styrene Plant Location		

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202	TORRANCE	SI	0020626	0020626	2/12/1970	REPORT	None	Shell Chemical Company Torrance CA Rail Car On Hand Report Styrene Plant Location		
203	TORRANCE	SI	0001506	0001506	January - June	FOLDER	None	Yard Checks - Poly.		
204	TORRANCE	SI	0001633	0001633	6/30/1970	REPORT	None	Shell Chemical Company Torrance California - Rail Car on Hand Report Polymer Plant Location		2i(8)
205	TORRANCE	SI	0001634	0001634	6/29/1970	REPORT	None	Shell Chemical Company Torrance California - Rail Car on Hand Report Polymer Plant Location		
206	TORRANCE	SI	0001654	0001654	6/1/1970	REPORT	None	Shell Chemical Company Torrance California Rail Car on Hand Report Polymer Plant Location		
207	TORRANCE	SI	0001679	0001679	4/24/1970	REPORT	None	Shell Chemical Company Torrance California - Rail Car On Hand Report Polymer Plant Location		

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208	TORRANCE	SI	0001711	0001711	3/11/1970	REPORT	None	Shell Chemical Company Torrance California - Rail Car On Hand Report Polymer Plant Location		
209	TORRANCE	SI	0002140	0002140	12/1969	FOLDER	None	Yard Checks - BD Plant - July-December 1969		
210	TORRANCE	SI	0002141	0002141	12/31/1969	REPORT	None	Shell Chemical Company - Torrance, Calif. - Rail Car On Hand Report Butadiene Plant Location		
211	TORRANCE	SI	0002167	0002167	11/21/1969	REPORT	None	Shell Chemical Company - Torrance CA Rail Car On Hand Report Butadiene Plant Location		
212	TORRANCE	SI	0002207	0002207	9/29/1969	REPORT	None	Shell Chemical Company - Torrance CA Rail Car On Hand Report Butadiene Plant Location		
213	TORRANCE	SK	0020918	0020918	1970	FOLDER	None	Purchases & Transfer 1970 - Detail Wire 6 W/D		

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214	TORRANCE	SK	0020921	0020962	None	REPORT	None	Listing of Product, Line No., Account, Pounds, Amounts & Control Totals		3
215	TORRANCE	SK	0020965	0020965	01/1970	REPORT	None	Torrance Plant - Summary of Purchase and Interdivision Transfers - January-1970		2; 2e(8) 3e(2);
216	TORRANCE	SI	0015051	0015080	10/02-31/1971	REPORT	None	Shell Chemical Company Torrance Plant Styrene Department Daily Control Data 1400 Unit		
217	TORRANCE	SI	0015081	0015110	10-02 - 31/1971	REPORT	None	Shell Chemical Company Torrance Plant Styrene Department Daily Control Data 2200 Unit		
218	TORRANCE	SI	0015111	0015140	10/02/1971-10/30/1971	REPORT	None	Shell Chemical Company Torrance Plant Styrene Unit - Ethylene Section Closing Gages		
219	TORRANCE	SI	0015141	0015170	10/02 - 31/1971	REPORT	None	Shell Chemical Company Torrance Plant Styrene Department Tank Farm Gages		

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220	TORRANCE	SI	0015171	0015200	10/02 - 31/1971	REPORT	Rohl, J.	Shell Chemical Company Torrance Plant Styrene Department Daily Control Data 1200 Unit		
221	TORRANCE	SI	0015201	0015230	10/2 - 31/1971	RECORD	None	Shell Chemical Company Torrance Plant Styrene Department Daily Control Data 2400 Unit		
222	TORRANCE	SP	0013606	0013643	Nov. 1953	REPORT	Rubber Producing Facilities Disposal Commission	Government Owned Synthetic Rubber Facility Plancor 963 Los Angeles, California (Offered For Sale Pursuant To Public Law 205 83d Congress 1st Session)		2 & 3 (multiple subparts)
223	TORRANCE	SI	0020991	0020992	1966	REPORT	Shell	Torrance Plant Operating Expenses - Footwear, Year 1966; 1966 Budget		2(e)(4)
224	TORRANCE	SI	0020993	0020993	1966	REPORT	Shell	Shell Chemical Company - Synthetic Rubber Division Operating Expenses - Black- Master Processing Year, 1966; 27f; 1966 Budget		2(e)(4)
225	TORRANCE	SI	0020994	0020994	1966	REPORT	Shell	Shell Chemical Company - Synthetic Rubber Division Operating Expenses - Oil Black- Master Processing Year, 1966; 27g; 1966 Budget		2(e)(4)

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226	TORRANCE	SI	0020995	0020995	1966	REPORT	Shell	Shell Chemical Company - Synthetic Rubber Division Operating Expenses - Thermolastic 200 Westchester Plastics Year, 1966; 27h; 1966 Budget		2(e)(4)
227	TORRANCE	SI	0020996	0020996	1966	REPORT	Shell	Shell Chemical Company - Synthetic Rubber Division - Operating Expenses Footwear - Manchester Plastics Year, 1966; 27i; 1966 Budget		2(e)(4)
228	TORRANCE	SI	0020997	0020997	1966	REPORT	Shell	Torrance Plant Details of Overhead Year 1966		2(e)(4)
229	TORRANCE	SI	0020998	0020998	1966	REPORT	Shell	Torrance Plant Summary of Shipping Expenses Year 1966		2(e)(4)
230	TORRANCE	SI	0020999	0020999	1966	REPORT	Shell	Torrance Plant Stand-by Expense Year 1966		2(e)(4)
231	TORRANCE	SI	0021000	0021000	1966	REPORT	Shell	Torrance Plant Idle Plant Expense Year 1966		2(e)(4)

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232	TORRANCE	SI	0021001	0021001	1966	REPORT	Shell	Torrance Plant Details Of Utilities-Electrical Year 1966		2(e)(4)
233	TORRANCE	SI	0021002	0021002	1966	REPORT	Shell	Torrance Plant Details Of Utilities - Natural Gas & Fuel Oil Year 1966		2(e)(4)
234	TORRANCE	SI	0021003	0021003	1966	REPORT	Shell	Torrance Plant Details of Utilities - Fresh Water Year 1966		2(e)(4)
235	TORRANCE	SI	0021004	0021004	1966	REPORT	Shell	Torrance Plant Details of Utilities - Cooling Water Butadiene Year 1966		2(e)(4)
236	TORRANCE	SI	0021005	0021005	1966	REPORT	Shell	Torrance Plant Details of Utilities of Utilities - Cooling Water - Styrene Year, 1966		2(e)(4)
237	TORRANCE	SI	0021006	0021006	1966	REPORT	Shell	Torrance Plant Details of Utilities - Cooling Water - Polymer Year, 1966		2(e)(4)

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238	TORRANCE	SI	0021007	0021007	1966	REPORT	Shell	Torrance Plant Details of Utilities - BD Water Treater Year, 1966		2(e)(4)
239	TORRANCE	SI	0021008	0021008	1966	REPORT	Shell	Torrance Plant Details of Utilities - Expenses Steam - Butadiene Year, 1966		2(e)(4)
240	TORRANCE	SI	0021009	0021009	1966	REPORT	Shell	Torrance Plant Details of Utilities - Steam - Styrene Year, 1966		2(e)(4)
241	TORRANCE	SI	0021010	0021010	1966	REPORT	Shell	Torrance Plant Details of Utilities - Air Year, 1966		2(e)(4)
242	TORRANCE	SI	0021011	0021011	1966	REPORT	Shell	Torrance Plant Details of Utilities - Effluent Year, 1966		2(e)(4)
243	TORRANCE	SI	0021012	0021012	1966	REPORT	Shell	Torrance Plant Details of Utilities - Refrigeration Year, 1966		2(e)(4)

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244	TORRANCE	SI	0020979	0020979	1966	REPORT	Shell	Torrance Plant Operating Expenses - Amylene Year, 1966		2(e)(4)
245	TORRANCE	SI	0020980	0020980	1966	REPORT	Shell	Torrance Plant Operating Expenses - Isoprene Year, 1966		2(e)(4)
246	TORRANCE	SI	0020981	0020981	1966	REPORT	Shell	Torrance Plant Operating Expenses - Polysioprene Special - Clerar Cement Year, 1966,		2(e)(4)
247	TORRANCE	SI	0020982	0020982	1966	REPORT	Shell	Torrance Plant Operating Expenses - Polysioprene Special - Clerar Year, 1966		2(e)(4)
248	TORRANCE	SI	0020983	0020983	1966	REPORT	Shell	Torrance Plant Operating Expenses - Polyisoprene Special Oil Cement Year, 1966		2(e)(4)
249	TORRANCE	SI	0020984	0020984	1966	REPORT	Shell	Torrance Plant Operating Expenses - Polyisoprene Special Oil Year, 1966		2(e)(4)

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250	TORRANCE	SI	0020985	0020986	1966	REPORT	Shell	Torrance Plant Operating Expenses - Thermoplastic Elastomers Cement Year, 1966		2(e)(4)
251	TORRANCE	SI	0020987	0020987	1966	REPORT	Shell	Torrance Plant Operating Expenses - Thermoplastic Elastomers Crumb Year, 1966		2(e)(4)
252	TORRANCE	SI	0020988	0020988	1966	REPORT	Shell	Torrance Plant Operating Expenses - Thermoplastic 100 Year 1966		2(e)(4)
253	TORRANCE	SI	0020989	0020990	1966	REPORT	Shell	Torrance Plant Operating Expenses - Thermoplastic 200 Year, 1966 With Attachments		2(e)(4)
254	TORRANCE	SI	0020970	0020970	1966	REPORT	Shell	Torrance Plant Operating Expenses Copolymer Black Year, 1966		2(e)(4)
255	TORRANCE	SI	0020971	0020971	1966	REPORT	Shell	Torrance Plant Operating Expenses - Copolymer Oil Year, 1966		2(e)(4)

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256	TORRANCE	SI	0020972	0020972	1966	REPORT	Shell	Torrance Plant Operating Expenses - Copolymer Black Oil Year, 1966		2(e)(4)
257	TORRANCE	SI	0020973	0020974	1966	REPORT	Shell	Torrance Plant Operating Expenses - Latex Cold High Solids Year 1966		2(e)(4)
258	TORRANCE	SI	0020975	0020976	1966	REPORT	Shell	Torrance Plant Operating Expenses - Latex Other Year 1966		2(e)(4)
259	TORRANCE	SI	0020977	0020978	1966	REPORT	Shell	Torrance Plant Operating Expenses - Copolymer Composite Year 1966		2(e)(4)
260	TORRANCE	SI	0020952	0020952	1966	REPORT	Shell	Shell Chemcial Plant Torrance Plant - Operating Expenses Year 1966 Index		2(e)(4)
261	TORRANCE	SI	0020953	0020953	1966	REPORT	Shell	Torrance Plant Operating Expenses Summary Year 1966; 1		2(e)(4)

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262	TORRANCE	SI	0020954	0020954	1966	REPORT	Shell	Torrance Plant Summary of Purchases and Interdivision Transfers Year 1966; 2		2(e)(4)
263	TORRANCE	SI	0020955	0020955	1966	REPORT	Shell	Torrance Plant Operating Expenses - Butylene Supply Year 1966; 3		2(e)(4)
264	TORRANCE	SI	0020956	0020957	1966	REPORT	Shell	Torrance Plant Operating Expense - Butadiene Year 1966; 4		2(e)(4)
265	TORRANCE	SI	0020958	0020958	1966	REPORT	Shell	Torrance Plant Butadiene Reserved For Standard Oil Company Year 1966		2(e)(4)
266	TORRANCE	SI	0020959	0020959	1966	REPORT	Shell	Torrance Plant Operating Expenses - Butadiene By Exchange Year 1966		2(e)(4)
267	TORRANCE	SI	0020960	0020960	1966	REPORT	Shell	Torrance Plant Operating Expenses - Butadiene Purchases Year 1966		2(e)(4)

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
268	TORRANCE	SI	0020961	0020961	1966	REPORT	Shell	Torrance Plant Operating Expenses - Ethylene Supply Year 1966		2(e)(4)
269	TORRANCE	SI	0020962	0020962	1966	REPORT	Shell	Torrance Plant Operating Expenses - Ethylene Year 1966		2(e)(4)
270	TORRANCE	SI	0020963	0020963	1966	REPORT	Shell	Torrance Plant Operating Expenses - Benzene Year 1966		2(e)(4)
271	TORRANCE	SI	0020964	0020964	1966	REPORT	Shell	Torrance Plant Operating Expenses - Ethylbenzene Year 1966		2(e)(4)
272	TORRANCE	SI	0020965	0020965	1966	REPORT	Shell	Torrance Plant Operating Expenses - Styrene Year 1966		2(e)(4)
273	TORRANCE	SI	0020966	0020966	1966	REPORT	Shell	Torrance Plant Operating Expenses - Other Products Year 1966		2(e)(4)

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
274	TORRANCE	SI	0020967	0020968	1966	REPORT	Shell	Torrance Plant Operating Expenses - Crude Latex Year 1966		2(e)(4)
275	TORRANCE	SI	0020969	0020969	1966	REPORT	Shell	Torrance Plant Operating Expenses Copolymer S Year 1966		2(e)(4)
276	TORRANCE	SS	0004324	0004338	4/8/1974	REPORT	Shell Development Company	Shell Development Company Elastomers Technical Center Determination Of The Amount Of Non-Volatile Residue Extracted From Polymer Sheets Gravimetric Method TRM 6006-166-744		3a((3); 3d(3); 3j(3); 3n(3)
277	TORRANCE	SS	0004337	0004337	4/8/1974	RECORD	Shell Development Company	Solvent Extraction Non-Volatile Residue Worksheet TRM 6006-166-74		3a((3); 3d(3); 3j(3); 3n(3)
278	TORRANCE	SS	0004338	0004338	4/8/1974	RECORD	Shell Development Company	Table 2 Chloraform Residue Determination Worksheet TRM 6006-166-74		3a((3); 3d(3); 3j(3); 3n(3)
279	TORRANCE	NONE	NONE	NONE	10/31/1955	REPORT	Shell	Shell Critical; Corporation Torrance Plant Tank Farm Data With Attachments		2g(5)&(6)

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
280	TORRANCE	SS	0004955	0004958	11/21/1972	RECORD	Shell	Permit For Industrial Wastewater Disposal Sanitation District of Los Angeles County; Critical Parameters Table SS-0004957; Schematic Flow SS-0004958; Critical Parameter Report Form (no Bates Label)		3, 9
281	TORRANCE	SS	0007850	0007851	7/15/1974	CORRESPONDENCE	Shell Development Company	Transmittal Completed Los Angeles County Sanitation District Industrial Wastewater Critical Parameter Form #3 (Los Angeles County Critical Parameters Form #3 SS-0007851 Attached)		3, 9
282	TORRANCE	SS	0007863	0007864	12/4/1973	CORRESPONDENCE	Shell Development Company	Transmittal Completed Los Angeles County Sanitation District Industrial Wastewater Critical Parameter Form #2 (Los Angeles County Critical Parameters Form #2 SS-0007864 Attached)		3, 9
283	TORRANCE	SH	0000225	0000225	9/24/1963	CORRESPONDENCE	G. R. Harrsion	(Handwritten note) Re: Production of Improved Delta Rubber		2b(7)
284	TORRANCE	SH	0000226	0000229	9/19/1963	REPORT	None	Memorandum of Justification AFE No. Facilities for The Production of Market Development Quantities of S-B-S Delta Polymers		2b(7)

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
285	TORRANCE	SQ	0015504	0015510	10/13/1955	CORRESPONDENCE	Unknown/illegible	Memorandum to Mr. L. Angelius with Attachments Inbound Carload Shipments - Monthly Average; Outbound Carload Shipemenst - Monthly Average; Outbound Truck Shipments - Monthly Average		2e, f & l; 3 e, f & l
286	N/A	N/A	N/A	N/A	Sep-52	ARTICLE	Royal E. Rostenbach	Article "Status Report on Synthetic Rubber Wastes"		2a(1); 2b(1); 2d(1)
287	N/A	N/A	N/A	N/A	Dec-53	ARTICLE	Arthur E. Martin and Royal E. Rostenbach	Article "Industrial Waste Treatment and Disposal at the Government Synthetic Rubber Plants, Los Angeles County, Calif"		2; 2b; 9
288	N/A	N/A	N/A	N/A	May-44	ARTICLE	Wallace A. Sawdon	Article, "California Synthetic Rubber Project is Now Completed"		2
289	N/A	N/A	N/A	N/A	1965	BROCHURE	Shell	"Shell Torrance Plant"		2a(4); 2b(4); 2g(4)
290	N/A	N/A	N/A	N/A	N/A	REPORT	Reconstruction FinanceCorporation	Report "Reconstruction Finance Corporation Office of Synthetic Rubber Plancor 611 Torrance California"		2, 3

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
291	TORRANCE	SP	0013568	0013605	Nov. 1953	REPORT	Rubber Producing Facilities Disposal Commission	Government Owned Synthetic Rubber Facility Plancor 929 Los Angeles, California (Offered For Sale Pursuant To Public Law 205 83d Congress 1st Session)		2, 3
292	TORRANCE	SP	0013644	0013689	Nov. 1953	REPORT	Rubber Producing Facilities Disposal Commission	Government Owned Synthetic Rubber Facility Plancor 611 Los Angeles, California (Offered For Sale Pursuant To Public Law 205 83d Congress 1st Session)		2, 3
293	N/A	N/A	N/A	N/A	18-May-72	CORRESPONDENCE	E.S. Martin	Torrance Plant Pipelines (Deposition Exhibit 104, Cause # 89-3738)		6
294	N/A	N/A	N/A	N/A	16-Feb-72	CORRESPONDENCE	E.S. Martin	Shutdown Status of Interconnecting Pipelines with Torrance (Deposition Exhibit 97, Case # 89-3738)		6
295	N/A	N/A	N/A	N/A	N/A	DIAGRAM/CHART	N/A	Handwritten diagram of Styrene Plant (circa Dow period?) Deposition Exhibit 109		3
296	TORRANCE	SJ	0008857	0008860	1-Jan-70	DIAGRAM/CHART	N/A	Shell Chemical Company Torrance Plant Organization charts - January 1, 1970 Management and Administrative		5

DOC ID	BATES 1	BATES 2	BATES BEGIN	BATES END	DOC DATE	DOC TYPE	AUTHOR/SENDER	SUBJECT RE:	BUSINESS CONFIDENTIAL?	104e QUESTION
297	N/A	N/A	N/A	N/A	11/28/1952	REPORT	Shell Chemical Corporation	Contaminant from 150 Area Circulating Acetone (with multiple enclosures)		3
298	N/A	N/A	N/A	N/A	10-Apr-52	CORRESPONDENCE	L.R. Donkle	Contaminant from 150 Area Circulating Acetone Report No. TC-7		3
299	N/A	N/A	N/A	N/A	26-Jun-52	REPORT	E.R. Adlof and A.L. Hansen	Contaminant from 150 Area Circulating Acetone		3
300	N/A	N/A	N/A	N/A	28-Nov-52	CORRESPONDENCE	E.R. Adlof; R.E. Black; L.M. Wallace	Contaminant from 150 Area Cirulating Acetone Report TC-7-S2		

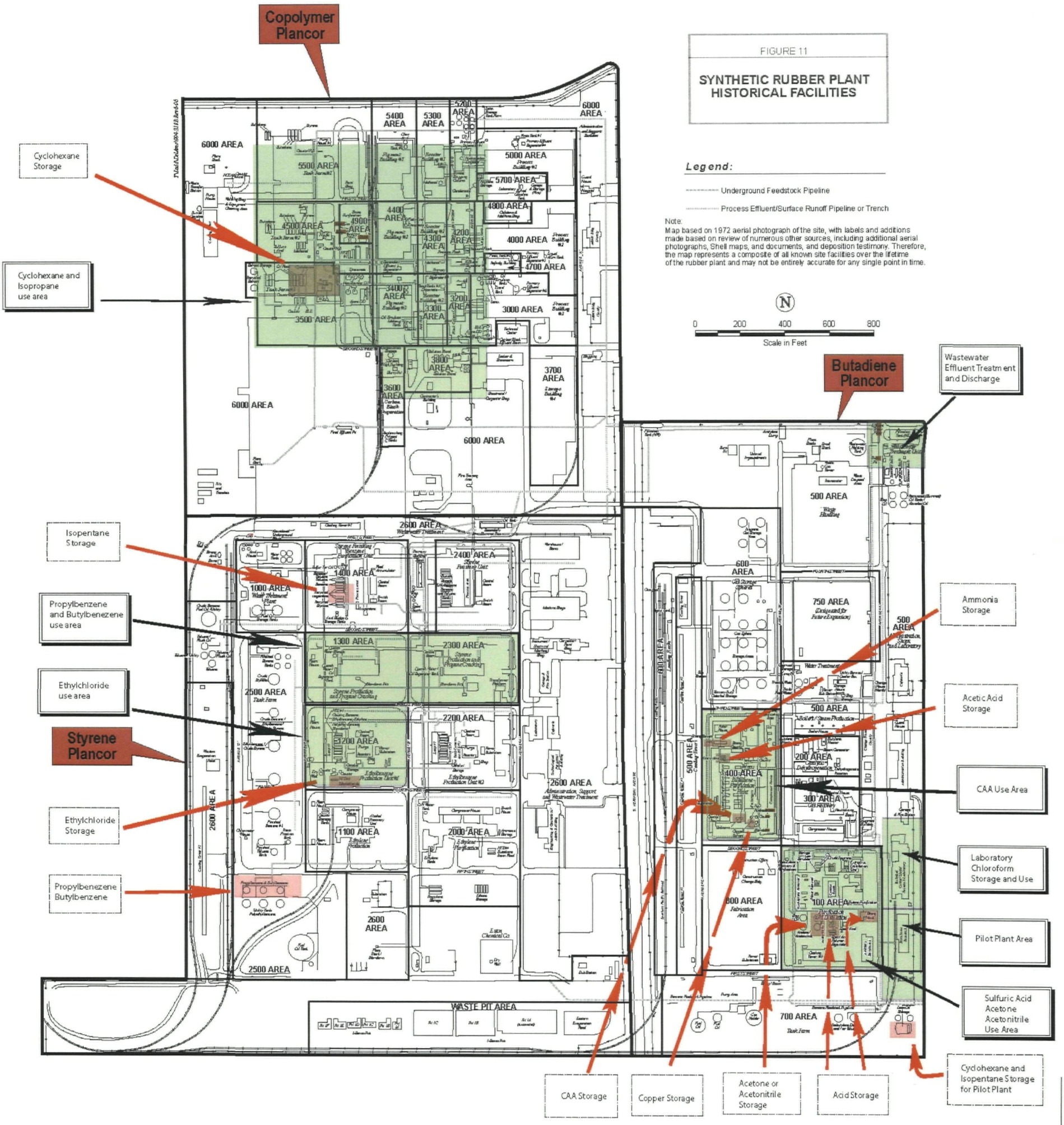
2159720

Shell Oil Company's Response to Request for Information Pursuant to CERCLA Section 104(e) Del Amo Facility Superfund Site March 7, 2008

EXHIBIT B

FIGURE 11

SYNTHETIC RUBBER PLANT HISTORICAL FACILITIES



Shell Oil Company's Response to
Request for Information Pursuant to
CERCLA Section 104(e)
Del Amo Facility Superfund Site
March 7, 2008

EXHIBIT C

SHELL CHEMICAL COMPANY

A DIVISION OF SHELL OIL COMPANY

P. O. BOX 211

TORRANCE, CALIFORNIA 90509

TELEPHONE 323-3030
321-2340

POLYMERS DIVISION
TORRANCE PLANT

May 16, 1972

Mr. John D. Parkhurst,
Chief Engineer and General Manager
Sanitation Districts of Los Angeles County
2020 Beverly Boulevard
Los Angeles, California 90057

Attention Mr. J. G. Kremer, Supervisor in Charge,
Industrial Waste Division

Gentlemen:

The permanent shutdown of the Butadiene Section of our Plant has reduced our total waste water flow to approximately the same volume as our former process waste water flow averaging 1450 gpm for April. This has permitted us to generally meet the 1650 gpm discharge schedule to the Normandie JO "D" trunk sewer prescribed in your letter of July 31, 1968, without the discharge of any waste water to the Dominguez Channel. A minor proportion of the present waste water flow to the sanitary sewer is cooling water from open recirculating systems averaging about 5 cycles of concentration, and boiler blowdown of about 15 cycles of concentration, previously directed to the Channel. We foresee this approximate level of operation until July 1, 1972, when the Polymer and Styrene Sections of the Plant will also be shut down permanently. The washing of Plant equipment will provide most of the flow during July and August, with normal treatment, but with greatly reduced total volume. By September 1, we expect an average flow of 70 gpm from a research laboratory on the site to be the only industrial waste water stream remaining for disposal to the sanitary sewers. The laboratory is expected to remain in operation on the site until the first quarter of 1975.

In order to protect the waters of the Dominguez Channel during the unusual conditions which will prevail until September 1, we request your formal permission to continue disposal of all waste waters to the Normandie trunk sewer (excluding rainfall, of course). This will also permit us to immediately cancel our application for a permit to discharge waste water to the Dominguez Channel from the Army Corps of Engineers.

The timing of our Plant shutdown corresponds with the July 1, 1972, effective date of certain new requirements of the Districts for industrial waste water discharge. We request that, in the case of our Plant, these requirements be deferred until September 1, 1972. Prior to July 1, 1972, we will be able to submit for your approval a new process flow diagram, operating procedures and proposed discharge schedule for waste water disposal from the continued operation of research laboratory.

We would appreciate your early concurrence with the foregoing proposed plan of action.

Yours very truly,

ORIGINAL SIGNED BY E. S. MARTIN

LRD:pd

E. S. Martin
Plant Manager

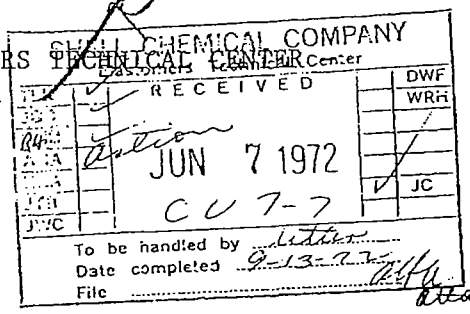
bc: Houston - Polymers Division - Manager Manufacturing

bbc: T. L. Keelen ← Copy For
D. L. Stahl
R. W. White
Central Files
Chron File

SC-1003 (Rev. 1-60)

REFERENCE

SHELL CHEMICAL COMPANY



DATE JUNE 6, 1972

TO ELASTOMERS TECHNICAL CENTER DIRECTOR

FROM MANAGER TECHNICAL - TORRANCE PLANT

SUBJECT WASTE WATER DISPOSAL

Attach w/letter cy

As agreed, the application for a permit to discharge waste water to the Dominguez Channel under the 1899 Refuse Act has been withdrawn. A copy of the cancellation letter is attached.

The County Sanitation Districts have agreed to accept all Plant waste waters until September 1, and after that date will accept process effluent from the ETC upon submission of a formal application and provision of the required treatment facilities.

The ordinance pertaining to industrial waste disposal to the Sanitation Districts was revised effective April 1, 1972. (A copy of this ordinance and a permit application form are attached.) This ordinance requires reporting information about the composition of waste water discharged in considerably more detail than was previously necessary. The Sanitation Districts have waived these new requirements for the Plant, however. Even though the ETC can continue to dispose of its waste water in the current fashion until September 1 without further authorization, the Sanitation Districts have specified that beginning July 1, this flow is to be measured and controlled. To permit this, temporary modifications have been made to direct the stream through the oil separator basins, a flow recorder, an automatic neutralizer, and an air flotation unit for final clean up and inspection prior to co-mingling with the Plant process effluent. The details of the required reporting should be worked out with the Sanitation Districts. We believe, however, that you should plan to measure and record flow volume, pH, COD and total dispersed solids (daily composite sample), beginning July 1. We further recommend that appropriate steps be taken to insure that rainfall will not enter your process waste water system. A flow sheet utilizing existing equipment showing our recommendations for permanent process waste water facilities is being prepared and will be available for your review shortly.

On a related matter, we understand that the Division has proposed that provisions to impound and remove with a vacuum truck all waters generated in the demolition of the Torrance Plant be included in the demolition contract. It is our understanding that this inclusion in the contract will make control of waste water discharge from the Torrance Plant during demolition the responsibility of the contractor and Head Office Engineering.

We will be available to assist you in preparing the formal application for submission to the Sanitation Districts, and developing "working level" contacts.

D. L. Stahl

DLS:LRD:pd

Attachments

cc: Torrance Plant - Manager
Houston - PD - E & A - Manager
Houston - Head Office Engineering -
Environmental Engineering - Manager

SHELL CHEMICAL COMPANY
A DIVISION OF SHELL OIL COMPANY
P. O. BOX 211
TORRANCE, CALIFORNIA 90509

TELEPHONE 323-3030
321-2340

ELASTOMERS
TECHNICAL CENTER

September 13, 1972

Mr. John D. Parkhurst
Chief Engineer and General Manager
County Sanitation Districts of Los Angeles County
2020 Beverly Boulevard
Los Angeles, California 90087

Dear Mr. Parkhurst:

In your letter of May 23, 1972, your file 5-00.05-00/72, to Mr. E. S. Martin, Plant Manager of Shell Chemical Company, P. O. Box 211, Torrance, you referred in the next-to-last paragraph to "The research laboratory which you plan to construct-----." We wish to clarify a misunderstanding which apparently exists since the laboratory has existed at this location since 1956 and has been commingling its process effluent with that of the Torrance Plant of Shell Chemical Company under City of Los Angeles, Department of Public Works Permit No. W-16933, issued in August 1958.

Further, it had occurred to us that, since the Shell Chemical Plant would cease operation at this location ca September 1, this year (reference Mr. E. S. Martin's letter of May 16, 1972, to you), our research facility might be expected to obtain a new permit by that date. However, on reviewing Section 215 of the April 1, 1972, ordinance(regulating industrial waste water discharges), we have interpreted that a new permit is to be obtained by November 23, 1972, six months after your notification letter of May 23, 1972.

To clarify our understanding, Mr. A. H. Anderegg of this laboratory contacted Mr. Dryden of your office by telephone on August 30. Mr. Dryden agreed with our understanding and requested that we follow up with a confirming letter.

Accordingly, then, we wish to restate our position and understanding regarding this situation:

1. The research laboratory referred to in your letter of May 23, 1972, is not to be constructed but has been in existence since 1956.

2. Since the industrial flow to the Sanitation District from this location has changed due to the shutdown of the

Torrance Plant, our research laboratory (named Elastomers Technical Center) will furnish the information requested in the next-to-last paragraph of your letter of May 23, 1972. Further, we understand that we must apply for and obtain the new Permit for Industrial Waste Water Discharge by November 23, 1972.

Should there be alternate interpretations of this situation, we presume you will contact us soonest. Feel free to call Mr. Anderegg if you have any questions at telephone 323-3030.

Yours very truly,

T. L. Keelen
Director

AHA:ws

bc: Torrance Plant
L. R. Donkle

ETC
T. L. Keelen ← Copy To
L. E. Handstedt
A. H. Anderegg
ETC Files

SHELL CHEMICAL COMPANY
A DIVISION OF SHELL OIL COMPANY
P. O. BOX 211
TORRANCE, CALIFORNIA 90509
TELEPHONE 323-30
321-23

POLYMERS DIVISION
TORRANCE PLANT

September 22, 1972

City of Los Angeles
Department of Public Works
Bureau of Sanitation
638 Beacon Street
San Pedro, California 90731

Attention: Joe C. Engesser

Gentlemen:

Confirming discussions of September 22 between our Mr. L. R. Donkle and Inspector C. L. Tripp, we wish to confirm the following:

1. Industrial waste discharge to the Del Amo (James St.) sanitary sewer from 20021 Vermont Avenue has been terminated.

2. Industrial waste discharge to the Normandie trunk sanitary sewer from 19821 South Hamilton Avenue will be terminated by October 15.

34146

3. Industrial waste discharge to the Del Amo sanitary sewer from 19821 South Hamilton Avenue will be terminated by October 15.

16933

Permits covering the above industrial waste connections should be cancelled.

Yours very truly,

ORIGINAL SIGNED [illegible]

J. P. Ruby, Manager
Employee Relations

COPY FOR

LRD:TJ
bc: T. L. Keelen - ETC

TORRANCE
SO-0013747

SHELL DEVELOPMENT COMPANY
A DIVISION OF SHELL OIL COMPANY
P. O. BOX 211
TORRANCE, CALIFORNIA 90509

TELEPHONE 323-3030
321-2340

ELASTOMERS
TECHNICAL CENTER

November 21, 1972

Mr. John D. Parkhurst
Chief Engineer and General Manager
County Sanitation Districts of Los Angeles County
2020 Beverly Boulevard
Los Angeles, California 90087

Dear Mr. Parkhurst:

Enclosed is an application for a "Permit for Industrial Wastewater Discharge" for wastewater discharged from this location. This is being filed in accord with your letter of June 13 and our answer of September 13, 1972.

Flow of industrial wastewater from the Elastomers Technical Center has, until recently, been commingled with that of the Torrance Plant of Shell Chemical Company. The combined stream has been discharged to trunk sewer J.O. "D" on Normandie Avenue. On September 1, 1972 the Plant was permanently shut down. The Technical Center, a research and development organization, will continue to operate at this location until 1975.

On the shutdown of the Plant, the Technical Center continued to discharge its effluent to the Normandie sewer until October 11. On that date the effluent was redirected to the Shell Oil Dominguez Refinery through an existing pipeline and commingled with refinery effluent for treatment prior to discharge to the Sanitary Districts.

Obviously then, Technical Center effluent takes an "indirect" route to the Sanitary Districts. According to Section 401 of the April 1, 1972 Ordinance Regulating Sewer Construction, Sewer Use and Industrial Wastewater Discharges, we have interpreted that Technical Center effluent is "indirect" and thus we are applying for a permit. This matter was discussed between Mr. Anderegg of Shell and Mr. Rose of the Sanitation Districts on November 14, 1972.

We presume that the Technical Center will not be assessed charges for suspended solids and COD since the assessment will be made on Shell Oil based on the flow and composition of the combined stream. Your opinion on this interpretation will be appreciated.

Attached are data required in accord with the instructions for obtaining a Permit for Industrial Waste Discharge furnished by your office. No data have been submitted for Item 4f since the Shell Oil Refinery facilities meet Districts' requirements.

In summation, data are submitted to obtain for the Elastomers Technical Center of Shell Development Company a permit to discharge industrial wastewater to the Sanitation Districts. The discharge will be indirect, i.e., through the Shell Oil Dominguez Refinery effluent treatment system. The assumption has been made that all use charges for the Technical Center stream will be assessed to the Shell Oil Refinery.

Please contact Mr. A. H. Anderegg or Mr. L. E. Hanstedt at telephone No. 323-3030 for any additional information.

Yours very truly,

R. H. Maun

for: T. L. Keelen, Director

Attachments

LEH:eb
bc: Shell Oil (w/o attachments)
Dominguez-Wilmington Refinery - Manager
Tax Division - Los Angeles
bbc: L. E. Hanstedt - w/attachment
A. H. Anderegg - w/attachment
ETC Files - w/attachment

(Consecutive) (District Applied)

PERMIT FOR INDUSTRIAL WASTEWATER DISCHARGE
SANITATION DISTRICTS OF LOS ANGELES COUNTY
2020 Beverly Blvd., Los Angeles, Calif. 90057
John D. Parkhurst, Chief Engineer and General Manager

Los Angeles, Calif. November 21, 1972

APPLICATION IS HEREBY MADE BY Shell Development Company
Print (Firm Name)

P. O. Box 211, Torrance, California 90509
(Mailing Address)

Owner of the property located at:
(Owner, Tenant, Etc.)

19821 South Hamilton Avenue, Los Angeles, California
Print (Address of Property Producing Wastewater Discharge)

Through Shell Oil Dominguez Refinery effluent discharge.
Print (Location of Point of Wastewater Discharge to Sewerage System)

for a Permit for Industrial Wastewater Discharge to the sewerage system.

Type of Industry Research and Development, 2821
(General Description) (Federal S.I.C. No.)

Number of Employees (Full Time) 131 (Part Time) 0

Raw Materials Used Butadiene, Styrene, Isoprene
(General Description-Add Additional Sheets as Needed)

Products Produced KRATON® (a synthetic rubber)
(General Description-Add Additional Sheets as Needed)

Wastewater Producing Operations Polymer solution washing and solvent stripping in coagulation operations.

Cooling tower blowdown. Boiler plant blowdown. Laboratory sink drains.
(Full Description - Add Additional Sheets as Needed)

Time of Discharge - 24 hours/day
(Working Day) AM to PM, Days Per Week (M) (T) (W) (Th) (F) (Sa) (Su)
(Circle Days)

Constituents of Wastewater Discharge Sodium Citrate - Boiler and Cooling Tower treatment chemicals. Sodium hydroxide.
(General Description-Attach Chemical Analyses Results to This Application)

Person in company responsible for industrial wastewater discharge:

A. H. Anderegg Manager Services Dept. 323-3030
Print (Name) (Position) (Telephone Number)

I affirm that all information furnished is true and correct and that the applicant will comply with the conditions stated on the back of this permit form.

TORRANCE
SS-0004955

Date Nov. 21, 1972

Signature for Applicant A. H. Anderegg Mgr. Services Dept.
(Company Administrative Official) (Name) (Position)

Approved by City or County Engineer

Date NOVEMBER-22-72

For (County Engineer)(City of) Carson

Name Edward F. Thompson

Position Supervising Engr. Inspector

Approved by Sanitation Districts

Date

John D. Parkhurst, Chief Engineer and General Manager

By

Position

NOTE: A permit fee may be required by the local City or County Engineer. This form when properly signed shall be a valid permit unless suspended or revoked.

ATTACHMENTS

SUPPLEMENTAL DATA
FOR
PERMIT FOR INDUSTRIAL WASTEWATER DISCHARGE

Attachment Number	Description of Attachment
1	Critical Parameter Report
2	Schematic Flow Diagram, ETC Water Use SS-72-7156
3	ETC Waste Disposal, Miscellaneous Information
4	Storm Drains System Map YT-15952
5	Process Sewers System Map YT-15953
6	Sanitary Sewers System Map YT-15954

SANITATION DISTRICTS OF LOS ANGELES COUNTY
INDUSTRIAL WASTEWATER
CRITICAL PARAMETER REPORT FORM

ATTACHMENT 1

M 20905
Box 423

IDENT. CODE	PARAMETER 1/	2/	QUANTITY VALUES		IDENT. CODE	PARAMETER 1/	2/	QUANTITY VALUES	
A	Flow (Total)		100M	gals/day	V	Manganese - Total		Absent	mg/l
B	Flow (Peak)		100	gals/min.	W	Mercury - Total	A	< 0.001	mg/l
C	COD	A	508	mg/l	X	Molybdenum - Total		Absent	mg/l
D	SS (Suspended Solids)	A	51.4	mg/l	Y	Nickel - Total	A	3.66	mg/l
E	pH @ 25°C	A	10.35	Units	Z	Selenium - Total		Absent	mg/l
F	Total Dissolved Solids	A	1357	mg/l	AA	Silver - Total		Absent	mg/l
G	Ammonia (N)	A	0.25	mg/l	BB	Sodium - Total	A	410	mg/l
H	Sulfide	A	< 0.01	mg/l	CC	Thallium - Total		Absent	mg/l
I	Cyanide		Absent	mg/l	DD	Tin - Total		Absent	mg/l
J	Fluoride	A	0.09	mg/l	EE	Titanium - Total		Absent	mg/l
K	Aluminum - Total	A	5.07	mg/l	FF	Zinc - Total	A	0.52	mg/l
L	Antimony - Total		Absent	mg/l	GG	Oil & Grease (Hexane Extract)	A	0.4	mg/l
M	Arsenic - Total		Absent	mg/l	HH	Phenols	A	< 0.05	mg/l
N	Beryllium - Total		Absent	mg/l	II	Surfactants (MBAS)	A	0.19	mg/l
O	Boron - Total	A	0.45	mg/l	JJ	Chlorinated Hydrocarbons (except pesticides)	A	Trichloroethylene	0.03
P	Cadmium - Total		Absent	mg/l			A	Chloroform mg/l	0.019
Q	Chromium - Total	A	1.16	mg/l	KK	Pesticides (Chlor. Hycarb.)		Absent	mg/l
R	Cobalt - Total		Absent	mg/l	LL	Radioactivity (Alpha, Beta & Gamma)		Absent	pCi/l
S	Copper - Total	A	1.53	mg/l	MM	Temperature		90-95	Degrees °F
T	Iron - Total	A	1.64	mg/l	NN	Color	A	27	Units
U	Lead - Total	A	0.17	mg/l	OO	Thiosulfate (S)	A	0.2	mg/l

	NON-CRITICAL PARAMETERS (Report When Available)					OTHER PARAMETERS (Report When Requested)		
PP	Calcium	A	28.0	mg/l	A1			
QQ	Magnesium	A	8.9	mg/l	A2			
RR	Potassium	A	6.0	mg/l	A3			
SS	Barium	A	< 0.1	mg/l	A4			
TT	Nitrate	A	1.9	mg/l	A5			
UU	Chloride	A	136.9	mg/l	A6			
VV	Bromide	A	1.2	mg/l	A7			
WW	Sulfate	A	371.2	mg/l	A8			
XX	Phosphorus-Ortho	A	1.1	mg/l	A9			

TORRANCE
SS-0004957

NOTES:

1/ Report all critical parameters required by the Sanitation Districts and any other critical parameter known to be present in the wastewater. Those parameters required by the Districts but known to be absent from the wastewater may be reported by placing the word absent in the appropriate space.

2/ If values are obtained by measurements or analyses write A in this column. Analysis values must be determined, using representative 24-hour composite samples, by a State Certified or Districts Approved Laboratory. If values are obtained by estimate, write E in this column. Estimated values are acceptable for new plants only.

Truesdail Laboratories, Inc., 4101 No. Figueroa Street, Los Angeles, Calif. 90065
(Print) Name and Address of Laboratory Performing Analyses and Flow Measurements

Shell Development Company, Elastomers Technical Center 2821
(Print) Name of Company Having Wastewater Discharge SIC Numbers

19821 South Hamilton Street, Los Angeles, California
(Print) Address of Wastewater Discharge

Commingled into and discharged with effluent of Shell Oil Co., Dominguez, Calif.
(Print) Additional Location Data (Data above should be for only one discharge point to the sewerage system)

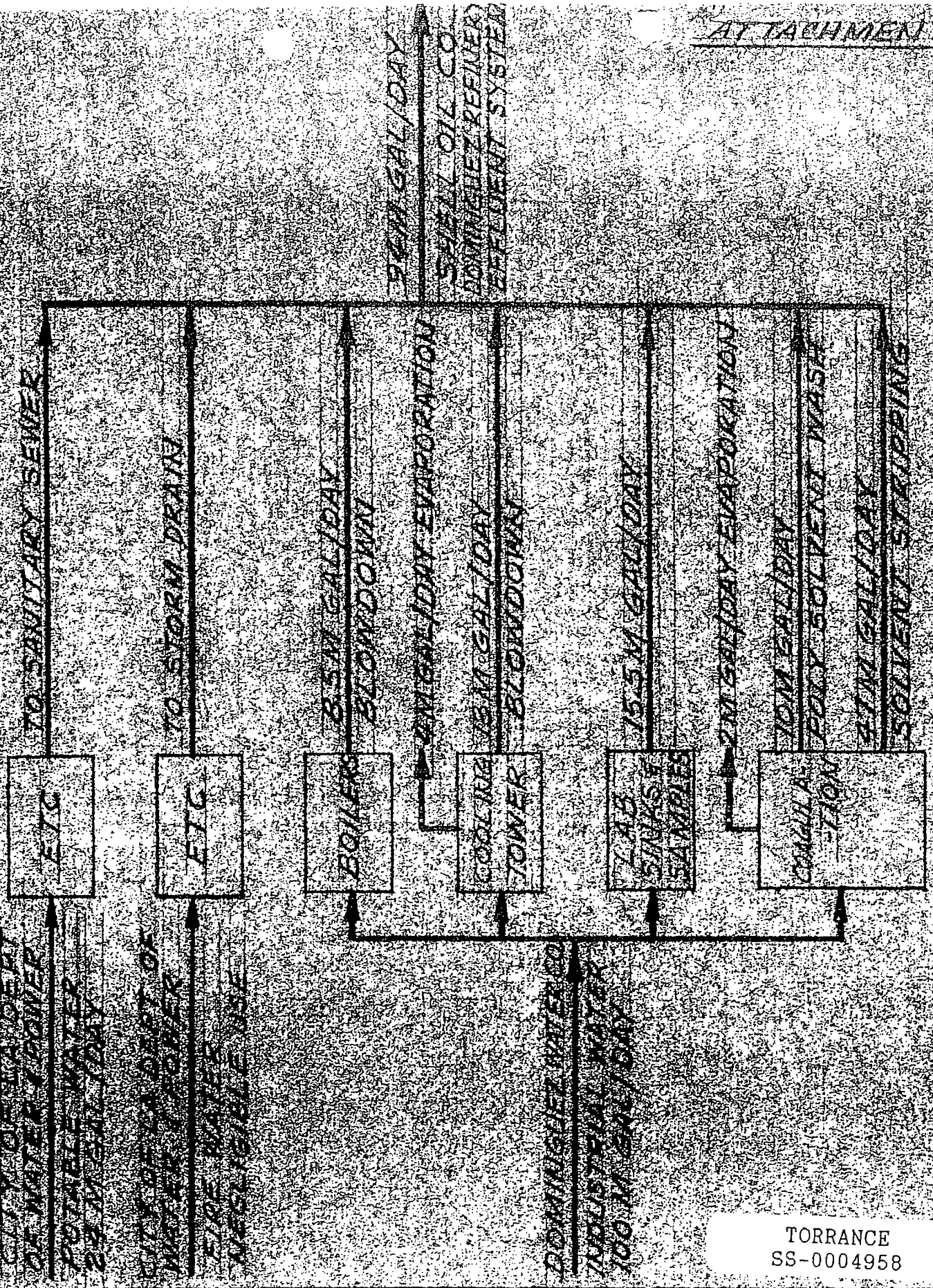
Statement of Accuracy of Data

I hereby affirm that the above data comprise a true and correct representation of the wastewater discharged from the stated discharge point.

Date: 11/21/72 Location: Los Angeles, California

(Signed) Name Position (Administrative Officer of Company with Wastewater Discharge) Manager Services Department

ATTACHMENT #2



TORRANCE
SS-0004958

SHELL CHEMICAL COMPANY TORRANCE PLANT

JOB TITLE SHELL DEVELOPMENT CO. SCHEMATIC FLOW DIAGRAM ETC WATER USE

DATE NOV. 21, 1972 DRAWN BY R.M. OCHOA

JOB NUMBER APPROVED BY 11-21

SS-72-7156

ATTACHMENT 3

SHELL DEVELOPMENT COMPANY

ETC WASTE DISPOSAL
MISCELLANEOUS INFORMATION

Information on Item 4 (i):

Other liquid wastes leaving ETC are:

1) Sanitary Sewer Discharge of 24M gal/day.

2) Cleanup of any spillage that may occur of liquid fuel oil, raw materials, or process materials. We hope this will be zero.

3) Material skimmed from pits, ditches and sewers by vacuum truck. These are solid particles suspended in or floating on water. We anticipate this may amount to 3-5 truckloads annually.

4) No other liquid wastes are discharged.

Information of Item 4 (j):

As shown in the attached maps of the Process and Sanitary Sewer System, the two systems are completely separate.

76P235M 434 South San Pedro Street **AIR POLLUTION CONTROL DISTRICT** Los Angeles, Calif. 90013

P51749
SL/ TS-88

Operation under this permit must be conducted in compliance with all data and specifications included with the application under which this permit is issued. The equipment must be properly maintained and kept in good operating condition at all times. In accordance with Rule 10(c), this Permit to Operate must be posted or accessible.

LEGAL OWNER OR OPERATOR: SHELL DEVELOPMENT COMPANY, A DIVISION OF SHELL OIL COMPANY

Appl. No. A-74043

EQUIPMENT LOCATED AT: 19821 SOUTH HAMILTON STREET
LOS ANGELES, CALIFORNIA

EQUIPMENT DESCRIPTION AND CONDITIONS: EFFLUENT TRANSFER FACILITY CONSISTING OF:

1. COLLECTION BASIN, 6'-0" W. x 15'-10" L. x 13'-0" H., THREE SECTIONS, WITH A 10 H.P. AGITATOR.
2. EFFLUENT SURGE TANK, CAPACITY 2000 BARRELS, 30'-0" DIA. x 16'-0" H.
3. TRANSFER PUMP, NO. P-750, DURCO CENTRIFUGAL TYPE, WITH MECHANICAL SEAL AND A 25 H.P. MOTOR.
4. TRANSFER PUMP (SPARE), NO. P-751, DURCO CENTRIFUGAL TYPE, WITH PACKED GLAND AND A 20 H.P. MOTOR.
5. FRESH CAUSTIC PUMP, BYRON-JACKSON CENTRIFUGAL TYPE, WITH PACKED GLAND AND A 5 H.P. MOTOR (COMMON WITH THE PDF FACILITY).

(CONDITION ON THE FOLLOWING PAGE)

THIS PERMIT BECOMES VOID UPON ANY CHANGE OF OWNERSHIP OR ADDRESS, OR ANY ALTERATION

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 20, Chapter 2, Article 3, of the Health and Safety Code of the State of California or the Rules and Regulations of the Air Pollution Control District. This permit cannot be considered as permission to violate existing laws, ordinances, regulation or statutes of other governmental agencies.

W11089 FEB 6 73 9 A 26.00
VOID UNLESS VALIDATED

AIR POLLUTION CONTROL OFFICER

BY Helen Thompson, Permit Section

DATE February 6, 1973

TORRANCE
SS-0007198

AIR POLLUTION CONTROL DISTRICT
COUNTY OF LOS ANGELES

CONTINUATION OF PERMIT NO. P-51749
(MUST BE DISPLAYED WITH PERMIT)

(CONDITION)

THIS EQUIPMENT MUST NOT BE USED TO RECEIVE EFFLUENT WATER CONTAINING 200 GALLONS OR MORE PER DAY OF PETROLEUM PRODUCTS FROM ANY EQUIPMENT WHICH PROCESSES, REFINES, STORES OR HANDLES HYDROCARBONS WITH A REID VAPOR PRESSURE OF 0.5 POUNDS OR GREATER.

Appl. No. A-74043

AIR POLLUTION CONTROL OFFICER
BY Helen Thompson, Permit Section
DATE February 6, 1973

16-500191

TORRANCE
SS-0007199

J2K

SHELL DEVELOPMENT COMPANY
A DIVISION OF SHELL OIL COMPANY
P. O. BOX 211
TORRANCE, CALIFORNIA 90509

TELEPHONE 323-3030
321-2340

ELASTOMERS
TECHNICAL CENTER

December 18, 1972

74-9

Mr. Charles A. Sheridan
Principal Ind. Waste Inspector
City of Los Angeles
Department of Public Works
Sewer Maintenance Division
2335 Dorris Place
Los Angeles, California 90031

Dear Mr. Sheridan:

As discussed on December 13, 1972 between you, Mr. Tripp of your San Pedro office, and Mr. Hanstedt of this location, we understand that we are not to reapply for industrial waste permit No. W-16933. These discussions were initiated by our receiving a notice of revocation dated December 7, 1972.

In the discussions you confirmed our opinion that permit No. W-16933 is unnecessary because our industrial waste water is no longer discharged to the Los Angeles City sewer system. A request for cancellation of the permit, effective November 1, 1972 had been sent to you by Shell Chemical Torrance Plant. We understand that the request for cancellation was not received in time to keep the revocation notice from being mailed.

Yours very truly,

T. L. Keelen

T. L. Keelen

LEH:eb

bc: A. H. Anderegg
L. E. Hanstedt
ETC Files

TORRANCE
SS-0004921

SHELL DEVELOPMENT COMPANY
A DIVISION OF SHELL OIL COMPANY
P. O. BOX 211
TORRANCE, CALIFORNIA 90509

TELEPHONE 323-30:
321-23.

ELASTOMERS
TECHNICAL CENTER

February 1, 1973

Mr. John D. Parkhurst
Chief Engineer and General Manager
County Sanitation Districts of Los Angeles County
2020 Beverly Boulevard
Los Angeles, California 90087

Dear Mr. Parkhurst:

This letter with its attachments is a resubmittal of our application for a Permit for Industrial Wastewater Discharge originally forwarded to your office on November 21, 1972. The application and supporting data were returned to us on December 5, 1972 accompanied by a form letter stating that the plans were not approved because they did not describe adequately the facilities or processes. Revisions and additional information were requested. Your letter indicated also that one copy of the plans was being retained for your files.

On December 13, 1972, Mr. Hanstedt of Shell Development and Mr. Rose of the Sanitation Districts discussed your information request. Mr. Rose said that he was unable to determine the function of the large refinery type equipment included in the Elastomers Technical Center (ETC) area. He also stated that the process descriptions can be generalized. From the discussion, we understand that your primary concern is the discharge resulting from routine and upset conditions of the Product Development Facility (PDF) and of the solvent purification processes. We understand that you are also concerned about the process and storage vessels that have a reasonable possibility of being discharged into the Sanitation Districts sewer system.

To supply the requested information we have attached the following:

a. Five (5) copies of the previously submitted application complete with revised and additional data to support the application.

b. One (1) copy of revised and/or additional data to supplement the original application retained in your office.

All information in the process description (Attachment #5) and in the flow diagrams is considered trade secret.

Drawings YT-2657-11 and YT-5047-6 show unused refinery type equipment in the ETC area. The equipment was formerly used by Shell Chemical Company for butadiene manufacture. On shutdown of the butadiene plant the equipment was purged and is now open to the atmosphere.

We trust that the enclosed information will satisfy your requirements. Should you have any questions, please contact Mr. A. H. Anderegg or Mr. L. E. Hanstedt at this location, telephone No. 323-3030.

Yours very truly,

for T. L. Keelen, Director

Attachments

LEH:jh
bc: Shell Oil (w/o attachments)
Dominguez-Wilmington Refinery - Manager
Tax Division - Los Angeles

bbc: L. E. Hanstedt - w/attachment
A. H. Anderegg - w/attachment
ETC Files - w/attachment
Copy To

LIST OF ATTACHMENTS (Revised)

"Permit for Industrial Wastewater Discharge"

Attachment Number	Description of Attachment
1	Critical Parameter Report
2	Schematic Flow Diagram ETC Water Use SS-72-7156
3	ETC Waste Disposal Miscellaneous Information
4	ETC Process and Storage Tanks Information(1)
5	ETC Process Development Facility (PDF) Process Description(1)(2)
YT-15952-2	ETC Storm Drains System Map(3)
YT-15953-3	ETC Process Sewers System Map(3)
YT-15954-3	ETC Sanitary Sewers System Map(3)
YT-2657-11	Butadiene Unit 150 and 180 Sections Equipment Locations(1)
YT-5047-6	Butadiene Unit 100 Sections Equipment Locations(1)
YT-15977	PDF Feed & Polymerization Process Flow Sheet(1)(2)
YT-15978	PDF Reaction, Catalyst Removal & Blending Simplified Process Flow Sheet(1)(2)
YT-15992	PDF Coagulation & Solvent Recovery Engineering Flow Diagram(1)(
YT-15991	PDF Product Dewatering Engineering Flow Diagram(1)(2)
YT-15994	PDF Drying & Pelletizing Engineering Flow Diagram(1)(2)
YT-15989	PDF Alternate Finishing High Temperature Coagulation Process Flow Sheet(1)(2)
YT-15990	PDF Alternate Finishing Dryer Engineering Flow Diagram(1)(2)
YT-15988	Recovered Solvent Purification for PDF Process Flow Sheet(1)(2)

NOTES: (1) Additional Material to that submitted on November 21, 1972.
(2) Trade secret material.
(3) Revised material that replaces similar material submitted with application of November 21, 1972.

TORRANCE
SS-0007597

SHELL DEVELOPMENT COMPANY

ETC PROCESS AND STORAGE
TANKS INFORMATION

The following tanks contain material that has a reasonable possibility of being discharged into the Sanitation District Sewer System:

Number	Dimensions	Volume	Chemical Compound	Concentration	Frequency of Disposal
T-120	30' dia. x 16' high	2,000 bbls	Water	100%	Infrequent
T-155	30' dia. x 16' high	2,000 bbls	NaOH	25%	Infrequent
V-101	12' dia. x 45' horizontal	44,700 gal	Solvent & Water	Trace of Solvent	< 1000 gal/w
V-127	7' dia. x 30' horizontal	9,500 gal	Solvent & Water	Trace of Solvent	< 1000 gal/w
V-128	7' dia. x 30' horizontal	9,500 gal	Solvent & Water	Trace of Solvent	< 1000 gal/w
V-112	4' dia. x 14' horizontal	1,430 gal	Solvent & Water	Trace of Solvent	100 gal/w

T-120 is provided to store industrial waste water in the event that the refinery must stop the transfer or to hold in-plant any contaminated waste water which cannot be discharged to the Sanitation District's sewer system.

T-155 supplies the caustic used to adjust the pH of the waste water. An excess of caustic could be discharged to our waste water upon failure of the motor valve or the controller. This should be corrected prior to discharge to the Sanitation District's sewers when our waste water passes through the effluent facilities in the Shell Oil Refinery at Dominguez.

V-101, 127 and 128 store recycle and waste solvent streams for recovery operations. Water frequently phase separates from the solvent phase and is manually drained to the process sewer. V-112 is a distillation column accumulator in which small quantities of water phase separate from the solvent during distillation. Water is drawn off to the process sewer by a controller. An operator error or equipment failure, followed by failure to hold the contaminated waste water in T-120, and then followed by failure to skim the solvent in the oil settling basins of the refinery effluent system could result in solvent being discharged to the Sanitation District's sewer system.

The other process and storage tanks in service at the Elastomers Technical Center could discharge into the Sanitation District's sewer system only upon a series of highly improbable incidents.

LEH/HH/eb

SHELL DEVELOPMENT COMPANY
ETC PROCESS DEVELOPMENT FACILITY (PDF)
PROCESS DESCRIPTION

The solvents and most of the large volume feeds for PDF are stored in dyked areas to preclude contamination of either surface or process sewer drainage systems in the event of upset or emergency operation. (Note: No such upsets or emergencies have been experienced to date and the probability of such occurrences is slight.)

PDF operations take place in and near Buildings X-514, X-515, and the south part of X-505 as shown on flow diagrams, YT-15977, YT-15978, YT-15992, YT-15991, YT-15994, YT-15989, and YT-15990 which are enclosed. Here, solvents and feeds are treated and then reacted to form rubber polymers in the first step of the process. No waste water is generated during this step under normal operation.

The solution of polymer is next reacted further with addition of a catalyst. This metallic catalyst is subsequently removed by extraction using a dilute acid. The dilute acid extractant is then steam stripped to remove and collect trace quantities of volatile hydrocarbon. Caustic is used to neutralize the acid ($pH \cong 8\text{-}9$) and the stream is cooled before being discharged to the process sewer. This constitutes one of two direct process streams discharged to the industrial waste water. No abnormal discharges are anticipated during upset or emergency operation of these process steps.

The final steps in the process involve removing the volatile hydrocarbon solvent and subsequent drying of the polymer. Solvent removal is accomplished by direct contact with steam. The vapors are condensed and phase separated. Steam condensate from this operation is stripped to remove any volatile solvent and is discharged to the process sewer. This constitutes the second direct process stream discharged as industrial waste water.

After solvent removal, the polymer is dried in a hot air oven and packaged in bags. No abnormal discharges are anticipated during upset or emergency operation of these process steps.

The solvent from the above operation is purified by distillation as shown on attached process plan sheet, YT-15988, and recycled. The equipment used in this operation is some of the equipment in the 100 section of the former butadiene unit. This is an intermittent operation with a maximum of 2 days running per week. Small amounts (less than 100 gallons per run) of water are manually drained to the process sewer from this operation. No abnormal discharges are anticipated from this process.

If any abnormal discharges were to occur from upsets or emergencies, they can be held in-plant for suitable disposal without contamination of the industrial waste water. In addition, as our effluent is transferred to the waste water treatment facilities of the Shell Oil Company Refinery at Dominguez, clean-up can be done there prior to discharge into the Sanitation Districts sewer system.

BWS/LEH/jh

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BWS/LEH/jh

SHELL DEVELOPMENT COMPANY
A DIVISION OF SHELL OIL COMPANY
P. O. BOX 211
TORRANCE, CALIFORNIA 90509

TELEPHONE 323-3030
321-2340

ELASTOMERS
TECHNICAL CENTER

M70209
Box 277

February 1, 1973

Mr. John D. Parkhurst
Chief Engineer and General Manager
County Sanitation Districts of Los Angeles County
2020 Beverly Boulevard
Los Angeles, California 90087

Dear Mr. Parkhurst:

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M70209

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Yours very truly,

for T. L. Keelen, Director

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Dominguez-Wilmington Refinery - Manager
Tax Division - Los Angeles

bbc: L. E. Hanstedt - w/attachment
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SANITATION DISTRICTS OF LOS ANGELES COUNTY
INDUSTRIAL WASTEWATER
CRITICAL PARAMETER REPORT FORM

ATTACHMENT 1

M 72825
Box 273

IDENT. CODE	PARAMETER 1/	2/	QUANTITY VALUES		IDENT. CODE	PARAMETER 1/	2/	QUANTITY VALUES	
A	Flow (Total)		100M	gals/day	V	Manganese - Total		Absent	mg/l
B	Flow (Peak)		100	gals/min.	W	Mercury - Total	A	< 0.001	mg/l
C	COD	A	508	mg/l	X	Molybdenum - Total		Absent	mg/l
D	SS (Suspended Solids)	A	51.4	mg/l	Y	Nickel - Total	A	3.66	mg/l
E	pH @ 25°C	A	10.35	Units	Z	Selenium - Total		Absent	mg/l
F	Total Dissolved Solids	A	1357	mg/l	AA	Silver - Total		Absent	mg/l
G	Ammonia (N)	A	0.25	mg/l	BB	Sodium - Total	A	410	mg/l
H	Sulfide	A	< 0.01	mg/l	CC	Thallium - Total		Absent	mg/l
I	Cyanide		Absent	mg/l	DD	Tin - Total		Absent	mg/l
J	Fluoride	A	0.09	mg/l	EE	Titanium - Total		Absent	mg/l
K	Aluminum - Total	A	5.07	mg/l	FF	Zinc - Total	A	0.52	mg/l
L	Antimony - Total		Absent	mg/l	GG	Oil & Grease (Hexane Extract)	A	0.4	mg/l
M	Arsenic - Total		Absent	mg/l	HH	Phenols	A	< 0.05	mg/l
N	Beryllium - Total		Absent	mg/l	II	Surfactants (MBAS)	A	0.19	mg/l
O	Boron - Total	A	0.45	mg/l	JJ	Chlorinated Hydrocarbons (except pesticides)	A	Trichloroethylene	θ.
P	Cadmium - Total		Absent	mg/l			A	Chloroform	mg/l 0.01
Q	Chromium - Total	A	1.16	mg/l	KK	Pesticides (Chlor. Hycarb.)		Absent	mg/l
R	Cobalt - Total		Absent	mg/l	LL	Radioactivity (Alpha, Beta & Gamma)		Absent	pCi/l
S	Copper - Total	A	1.53	mg/l	MM	Temperature		90-95	Degrees °F
T	Iron - Total	A	1.64	mg/l	NN	Color	A	27	Units
U	Lead - Total	A	0.17	mg/l	OO	Thiosulfate (S)	A	0.2	mg/l

	NON-CRITICAL PARAMETERS (Report When Available)					OTHER PARAMETERS (Report When Requested)			
PP	Calcium	A	28.0	mg/l	A1				
QQ	Magnesium	A	8.9	mg/l	A2				
RR	Potassium	A	6.0	mg/l	A3				
SS	Barium	A	< 0.1	mg/l	A4				
TT	Nitrate	A	1.9	mg/l	A5				
UU	Chloride	A	136.9	mg/l	A6				
VV	Bromide	A	1.2	mg/l	A7				
WW	Sulfate	A	371.2	mg/l	A8				
XX	Phosphorus-Ortho	A	1.1	mg/l	A9				

TORRANCE
SS-0004957

NOTES:

1/ Report all critical parameters required by the Sanitation Districts and any other critical parameter known to be present in the wastewater. Those parameters required by the Districts but known to be absent from the wastewater may be reported by placing the word absent in the appropriate space.

2/ If values are obtained by measurements or analyses write A in this column. Analysis values must be determined, using representative 24-hour composite samples, by a State Certified or Districts Approved Laboratory. If values are obtained by estimate, write E in this column. Estimated values are acceptable for new plants only.

(Print) Truesdail Laboratories, Inc., 4101 No. Figueroa Street, Los Angeles, Calif. 90065
Name and Address of Laboratory Performing Analyses and Flow Measurements

(Print) Shell Development Company, Elastomers Technical Center 2821
Name of Company Having Wastewater Discharge SIC Numbers

(Print) 19821 South Hamilton Street, Los Angeles, California
Address of Wastewater Discharge

(Print) Commingled into and discharged with effluent of Shell Oil Co., Dominguez, Calif.
Additional Location Data (Data above should be for only one discharge point to the sewerage system)

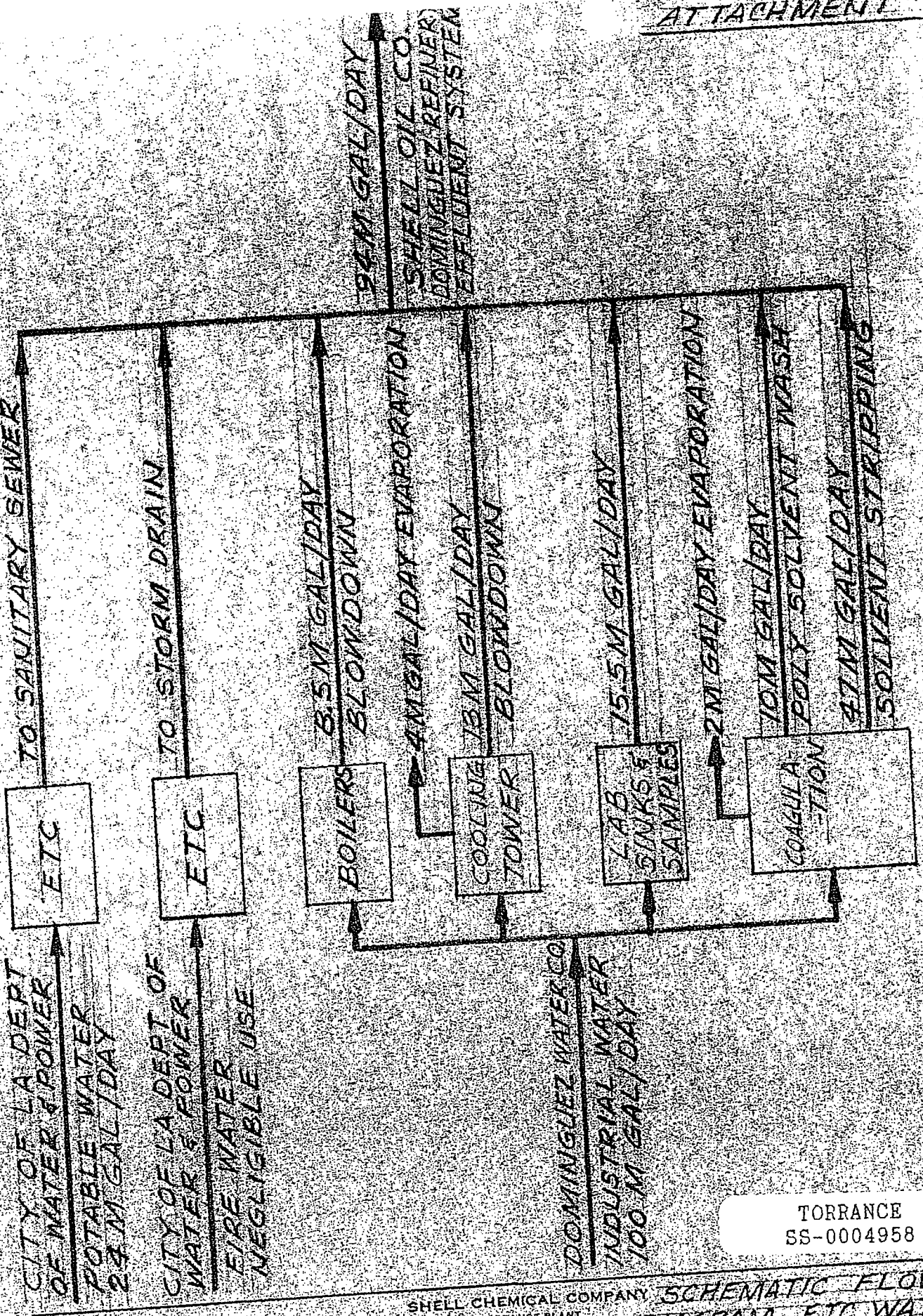
Statement of Accuracy of Data

I hereby affirm that the above data comprise a true and correct representation of the wastewater discharged from the stated discharge point.

Date: 11/21/72 Location: Los Angeles, California

(Signed) Name Position (Administrative Officer of Company with Wastewater Discharge)
Manager, Services Department

ATTACHMENT #2



TORRANCE
SS-0004958

SHELL CHEMICAL COMPANY
TORRANCE PLANT

SCHEMATIC FLOW DIAGRAM ETC WATER USE

JOB TITLE SHELL DEVELOPMENT CO.

DRAWN BY R.M. OCHOA

DATE NOV. 21, 1972

APPROVED BY 11-21

JOB NUMBER

SS 72-7156

ATTACHMENT 3

SHELL DEVELOPMENT COMPANY

ETC WASTE DISPOSAL
MISCELLANEOUS INFORMATION

Information on Item 4 (i):

Other liquid wastes leaving ETC are:

1) Sanitary Sewer Discharge of 24M gal/day.

2) Cleanup of any spillage that may occur of liquid fuel oil, raw materials, or process materials. We hope this will be zero.

3) Material skimmed from pits, ditches and sewers by vacuum truck. These are solid particles suspended in or floating on water. We anticipate this may amount to 3-5 truckloads annually.

4) No other liquid wastes are discharged.

Information of Item 4 (j):

As shown in the attached maps of the Process and Sanitary Sewer System, the two systems are completely separate.

ATTACHMENT 4

SHELL DEVELOPMENT COMPANY

ETC PROCESS AND STORAGE
TANKS INFORMATION

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V-127	7' dia. x 30' horizontal	9,500 gal	Solvent & Water	Trace of Solvent	< 1000 gal/wk
V-128	7' dia. x 30' horizontal	9,500 gal	Solvent & Water	Trace of Solvent	< 1000 gal/wk
V-112	4' dia. x 14' horizontal	1,430 gal	Solvent & Water	Trace of Solvent	100 gal/wk

T-120 is provided to store industrial waste water in the event that the refinery must stop the transfer or to hold in-plant any contaminated waste water which cannot be discharged to the Sanitation District's sewer system.

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The other process and storage tanks in service at the Elastomers Technical Center could discharge into the Sanitation District's sewer system only upon a series of highly improbable incidents.

LEH/HH/eb

ATTACHMENT 5

SHELL DEVELOPMENT COMPANY
ETC PROCESS DEVELOPMENT FACILITY (PDF)
PROCESS DESCRIPTION

The solvents and most of the large volume feeds for PDF are stored in dyked areas to preclude contamination of either surface or process sewer drainage systems in the event of upset or emergency operation. (Note: No such upsets or emergencies have been experienced to date and the probability of such occurrences is slight.)

PDF operations take place in and near Buildings X-514, X-515, and the south part of X-505 as shown on flow diagrams, YT-15977, YT-15978, YT-15992, YT-15991, YT-15994, YT-15989, and YT-15990 which are enclosed. Here, solvents and feeds are treated and then reacted to form rubber polymers in the first step of the process. No waste water is generated during this step under normal operation.

The solution of polymer is next reacted further with addition of a catalyst. This metallic catalyst is subsequently removed by extraction using a dilute acid. The dilute acid extractant is then steam stripped to remove and collect trace quantities of volatile hydrocarbon. Caustic is used to neutralize the acid (pH $\cong$8-9) and the stream is cooled before being discharged to the process sewer. This constitutes one of two direct process streams discharged to the industrial waste water. No abnormal discharges are anticipated during upset or emergency operation of these process steps.

The final steps in the process involve removing the volatile hydrocarbon solvent and subsequent drying of the polymer. Solvent removal is accomplished by direct contact with steam. The vapors are condensed and phase separated. Steam condensate from this operation is stripped to remove any volatile solvent and is discharged to the process sewer. This constitutes the second direct process stream discharged as industrial waste water.

After solvent removal, the polymer is dried in a hot air oven and packaged in bags. No abnormal discharges are anticipated during upset or emergency operation of these process steps.

The solvent from the above operation is purified by distillation as shown on attached process plan sheet, YT-15988, and recycled. The equipment used in this operation is some of the equipment in the 100 section of the former butadiene unit. This is an intermittent operation with a maximum of 2 days running per week. Small amounts (less than 100 gallons per run) of water are manually drained to the process sewer from this operation. No abnormal discharges are anticipated from this process.

If any abnormal discharges were to occur from upsets or emergencies, they can be held in-plant for suitable disposal without contamination of the industrial waste water. In addition, as our effluent is transferred to the waste water treatment facilities of the Shell Oil Company Refinery at Dominguez, clean-up can be done there prior to discharge into the Sanitation Districts sewer system.

BWS/LEH/jh

SHELL DEVELOPMENT COMPANY
A DIVISION OF SHELL OIL COMPANY
P. O. BOX 211
TORRANCE, CALIFORNIA 90509

TELEPHONE 323-3030
321-2340

ELASTOMERS
TECHNICAL CENTER

March 6, 1973

24-9-3

Department of County Engineer
Project Planning & Pollution
Control Division
9150 East Imperial Highway
Downey, California 90242

Attention: Mr. Ruben Garcia

Gentlemen:

The attached application No. C110019 for a permit for industrial wastewater discharge is hereby resubmitted on the form supplied to us by Mr. Rorie in his memorandum of February 17, 1973. Please note that the new form has not been approved by a City or County Engineer. We will appreciate your having the form signed by an appropriate individual.

We presume that our industrial discharge will be incorporated with the discharge of the Shell Oil Dominguez/Wilmington Refinery for determination of an overall surcharge which will be assessed against the refinery. This point was discussed between Mr. Hanstedt of this organization and Mr. Rorie of the Sanitation Districts on March 1, 1973. Please advise if you do not concur.

Yours very truly,

A. H. Anderegg, Manager
Services Department

Attachment

bc: Shell Oil Dominguez/Wilmington Refinery
R. A. O'Hare
Shell Oil Legal Department - West Coast Division
M. V. Koski
J. H. Fields
ETC
T. L. Keelen
A. H. Anderegg
L. E. Hanstedt
ETC Files

COPY TO

TORRANCE
SS-0007582

SM-22-1 (Rev. 9-57)

SHELL OIL COMPANY

REFERENCE 24-9-3

DATE MARCH 5, 1973

TO SOD LAND - B. G. KERR
WILMINGTON - EAST AREA GENERAL
CONSERVATION MANAGER
SHELL DEVELOPMENT COMPANY - ELASTOMERS
TECHNICAL CENTER -
A. H. ANDEREGG

FROM LEGAL DEPARTMENT
WEST COAST DIVISION

SUBJECT LOS ANGELES COUNTY SANITATION DISTRICT
INDUSTRIAL WASTE WATER

Reference is made to our February 26, 1973 memorandum concerning the subject surcharge. In order for us to coordinate the efforts in this matter, we request that each by March 20, 1973 of the addressees hereof furnish this office (no later than March 20) with a computation of their respective anticipated surcharges as follows:

B. G. Kerr - Dominguez Oil Field

R. A. O'Hare - Wilmington Refinery) & Dominguez Refinery } Compute separately

A. H. Anderegg - Elastomers Technical Center

In computing this anticipated surcharge, please consider the tax offset as zero.

Upon receipt of all of these computations, M. V. Koski and the writer will make an initial determination as to how and to what extent these surcharges should be combined. We will then request that R. D. Kerick provide us with copies of any rights-of-way, easements or licenses connecting any of the above parcels for which we propose to combine the surcharges. After receiving these instruments, we will all meet to review the feasibility of our approach and make the necessary modifications thereto.

Should you have any questions concerning the foregoing, please contact the writer.

ORIGINAL SIGNED BY
J. H. FIELDS

J. H. Fields

JHF:deh

cc: WCD Production Manager
WC Pipe Lines - Right of Way - R. D. Kerrick
Western Tax Office - M. V. Koski
Wilmington Treasury - R. E. Engler

SHELL CHEMICAL COMPANY
Elastomers Technical Center

TMK	✓	RECEIVED	DWF
JGS			WRH
PHM			
AHA		MAR 13 1973	
KRA			
JTB			JC
JWC		CUH 13-73	

To be handled by
Date completed
File

Answered by me on 3-14

TORRANCE

COUNTY SANITATION DISTRICTS
OF
LOS ANGELES COUNTY

2020 BEVERLY BOULEVARD
LOS ANGELES, CALIFORNIA 90057

JOHN D. PARKHURST
CHIEF ENGINEER AND GENERAL MANAGER

TELEPHONE
(213) 484-1370

21-9.3

March 10, 1973

File: 8-00.05-00/ 73

SHELL CHEMICAL COMPANY
Customers Technical Center
RECEIVED
MAR 20 1973

WK			DWF
CJ			WRH
RIM			
AHA	cc		
KRA			
JTB			JC
DWC			

To be handled by
Date completed
File

Mr. Jack M. Betz
Assistant Director
Bureau of Sanitation
Department of Public Works
Room 948, City Hall
Los Angeles, Ca. 90012

Re: Industrial Wastewater Discharge Permit No. 309
Shell Development Co.
19821 S. Hamilton Ave.
Los Angeles, Ca.

Dear Mr. Betz:

Enclosed are four approved sets of plans for proposed industrial waste discharge from subject company. Plans consist of: Shell Development Co. drawings for the facility including drawing #'s YT-15952-2, YT-2657-11, YT-15953-3, YT-15954-3, YT-5047-6, YT-15977, YT-15978, YT-15992, YT-15991, YT-15994, YT-15989, YT-15990, and YT-15988, plus an attached letter explaining the submittal, a list of attachments, an Industrial Waste Permit Application (old form), a revised submittal explanation, a preliminary Critical Parameter Report Form, a Water Use Schematic Diagram, miscellaneous information concerning waste disposal, a description of process and storage tanks, and a process description.

Approval is contingent upon continuing compliance with all applicable Ordinance requirements, / / upon corrections shown in red on the drawings, /x/ upon the following specific requirements:

1. The enclosed Critical Parameter Report Form #2 shall be filled out and returned to the Sanitation Districts by July 1, 1973, and again on that date every year thereafter. Analyses are to be performed by a state certified laboratory or by a laboratory approved by the Sanitation Districts.

TORRANCE
SS-0007579

2. Discharge of total chromium to the sewer may be restricted to .8 mg/l in the future. Shell Development Company is advised to be prepared for this eventuality.

Very truly yours,

John D. Parkhurst
Chief Engineer and
General Manager

By Jay G. Kremer
Jay G. Kremer
Supervisor in Charge
Industrial Waste Section

JGK:WER:gb

cc: Mr. A. H. Anderegg
Shell Development Co.
P. O. Box 211
Torrance, Ca. 90509

Encls. *, **

TORRANCE
SS-0007580

SANITATION DISTRICTS OF LOS ANGELES COUNTY
INDUSTRIAL WASTEWATER
CRITICAL PARAMETER REPORT FORM

#2

Ident. Code	PARAMETER 1/	2/	QUANTITY VALUES	Ident. Code	PARAMETER 1/	2/	QUANTITY VALUES
A	Flow (Total)		gals/day	V	Manganese - Total		mg/l
B	Flow (Peak)		gals/min.	W	Mercury - Total		mg/l
C	COD		mg/l	X	Molybdenum - Total		mg/l
D	SS (Suspended Solids)		mg/l	Y	Nickel - Total		mg/l
E	pH		Units	Z	Selenium - Total		mg/l
F	Total Dissolved Solids		mg/l	AA	Silver - Total		mg/l
G	Ammonia (N)		mg/l	BB	Sodium - Total		mg/l
H	Sulfide		mg/l	CC	Thallium - Total		mg/l
I	Cyanide		mg/l	DD	Tin - Total		mg/l
J	Fluoride		mg/l	EE	Titanium - Total		mg/l
K	Aluminum - Total		mg/l	FF	Zinc - Total		mg/l
L	Antimony - Total		mg/l	GG	Oil & Grease (Hexane Extract)		mg/l
M	Arsenic - Total		mg/l	HH	Phenols		mg/l
N	Beryllium - Total		mg/l	II	Surfactants (MBAS)		mg/l
O	Boron - Total		mg/l	JJ	Chlorinated Hydrocarbons (except pesticides)		mg/l
P	Cadmium - Total		mg/l				
Q	Chromium - Total		mg/l	KK	Pesticides (Chlor. Hycarb.)		mg/l
R	Cobalt - Total		mg/l	LL	Radioactivity (Alpha, Beta & Gamma)		pCi/l
S	Copper - Total		mg/l	MM	Temperature		Degrees °F
T	Iron - Total		mg/l	NN	Color		Units
U	Lead - Total		mg/l	OO	Thiosulfate (S)		mg/l

	NON-CRITICAL PARAMETERS (Report When Available)				OTHER PARAMETERS (Report When Requested)		
PP	Calcium		mg/l	A1			
QQ	Magnesium		mg/l	A2			
RR	Potassium		mg/l	A3			
SS	Barium		mg/l	A4			
TT	Nitrate		mg/l	A5			
UU	Chloride		mg/l	A6			
VV	Bromide		mg/l	A7			
WW	Sulfate		mg/l	A8			
XX	Phosphorus-Ortho		mg/l	A9			

TORRANCE
SS-0007581

NOTES:

1/ Report all critical parameters required by the Sanitation Districts and any other critical parameter known to be present in the wastewater. Those parameters required by the Districts but *known to be absent* from the wastewater may be reported by placing the word absent in the appropriate space.

2/ If values are obtained by measurements or analyses write A in this column. Analysis values must be determined, using representative 24-hour composite samples, by a State Certified or Districts Approved Laboratory. If values are obtained by estimate, write E in this column. *Estimated values are acceptable for new plants only.*

(Print) Name and Address of Laboratory Performing Analyses and Flow Measurements

(Print) Name of Company Having Wastewater Discharge SIC Number(s)

(Print) Address of Wastewater Discharge

(Print) Additional Location Data (Data above should be for only *one* discharge point to the sewerage system)

Statement of Accuracy of Data

I hereby affirm that the above data comprise a true and correct representation of the wastewater discharged from the stated discharge point.

Date: _____ Location: _____, California _____

(Signed) Name Position (Administrative Officer of Company with Wastewater Discharge).

APPLICATION NO. C11.0019

NEW CONSTRUCTION PERMIT FOR INDUSTRIAL WASTEWATER DISCHARGE

SANITATION DISTRICTS OF LOS ANGELES COUNTY
2020 Beverly Blvd., Los Angeles, Calif. 90057
John D. Parkhurst, Chief Engineer and General Manager

PERMIT NO.

Los Angeles, Calif. 11 / 21 / 72 (application) 2 / 28 / 73 (permit)
(CITY) (NO. DAY YR.)

"APPLICATION IS HEREBY MADE BY" Shell Development Company, a Division of Shell Oil Company
(PRINT) (FIRM NAME)

(Mailing Address) P. O. Box 211 (STREET) Torrance (CITY) California (STATE) 90503 (ZIP)

(OWNER, TENANT, ETC.) Tenant of the property located

(Street) 19621 So. Hamilton Avenue (City) Los Angeles, Calif. (Zip) 90502
(PRINT) (ADDRESS OF PROPERTY PRODUCING WASTEWATER DISCHARGE)

"Assessors Map Book No." 7351 Page No." 33 Parcel No." 1
(LEGAL ADDRESS OF PROPERTY PRODUCING WASTEWATER DISCHARGE)

Thereon Shell Oil Dominguez Refinery effluent discharge.
(PRINT) (LOCATION OF POINT OF WASTEWATER DISCHARGE TO SEWERAGE SYSTEM)

for a Permit for Industrial Wastewater Discharge to the sewerage system.

18 Type of Industry" Research & Development, M. 17 2821
(GENERAL DESCRIPTION) (FEDERAL SIC NOS.)

19 Number of Employees (Full Time)" 129 (Part Time)" 8

21 Raw Materials Used" Butadiene, Styrene, Isoprene
(GENERAL DESCRIPTION - ADD ADDITIONAL SHEETS AS NEEDED)

Products Produced KRATON (a synthetic rubber)
(GENERAL DESCRIPTION - ADD ADDITIONAL SHEETS AS NEEDED)

Wastewater Producing Operations Polymer solution washing and solvent stripping in coagulation operations. Cooling tower blowdown. Boiler plant blowdown. Laboratory sink drains.
(FULL DESCRIPTION - ADD ADDITIONAL SHEETS AS NEEDED)

23 Time of Discharge - " 24 hours/day AM/PM to AM/PM. Days per Week" (M)(T)(W)(Th)(F)(S)(Su)
(WORKING DAY - CROSS OUT AM OR PM) (CIRCLE DAYS)

" Wastewater Flow Rate" Critical parameter estimate 100,000 G/d Measured average
AA (Gallons Per Day) 84,000 gal/day

Constituents of Wastewater Discharge Boiler and cooling tower treatment chemicals, Sodium hydroxide, Sodium Bitt.
(GENERAL DESCRIPTION - ATTACH CHEMICAL ANALYSES RESULTS TO THIS APPLICATION)

Person in company responsible for industrial wastewater discharge:

A1 A. E. Armstrong (PRINT) (NAME) Manager Services Dept. (POSITION) 323-3030 (TELEPHONE NUMBER)

I affirm that all information furnished is true and correct and that the applicant will comply with the conditions stated on the back of this permit form.

Date February 28, 1973

Signature for Applicant (COMPANY ADMINISTRATIVE OFFICIAL) (NAME) Manager Services Dept. (POSITION)

Approved by City or County Official

Date

For Dept. of County Engineers ☐

or ☐

Name

Position

Approved by Sanitation Districts of Los Angeles County

Date MAR 10 1973

John D. Parkhurst, Chief Engineer and General Manager

by Jay B. Kramer
SUPERVISOR IN CHARGE
INDUSTRIAL WASTE SECTION

Note: A permit may be required by the local City or County Agency.
This form when properly signed shall be a valid permit unless suspended or revoked.

COUNTY ENGINEER'S COPY

9/1/2/73

Jean Camden:

In going thru my files today I came upon this little treasure.

While AHA I thot it appropriate that I keep the original, (attached folder, second drawer from bottom, east file cabinet in my office), it might be desirable for you to have a copy just in case.

You must have a thick file on the efforts it took to get this.

L. E. HANSTEDT

PPLICATION NO. C110019 | NEW CONSTRUCTION | PERMIT NO. 24-9-3 303

PERMIT FOR INDUSTRIAL WASTEWATER DISCHARGE

SANITATION DISTRICTS OF LOS ANGELES COUNTY

2020 Beverly Blvd., Los Angeles, Calif. 90057

John D. Parkhurst, Chief Engineer and General Manager

SHELL — RECEIVED — MAY 9 1973 — To be completed by ... File

Los Angeles, Calif.* 11 / 21 / 72 (original) 2 / 28 / 73 (present)
MO. DAY YR.

APPLICATION IS HEREBY MADE BY* SHELL DEVELOPMENT COMPANY, a Division of Shell Oil Company (FIRM NAME)

(Mailing Address) P. O. Box 211 (STREET) Torrance (CITY) California (STATE) 90509 (ZIP)

Tenant (OWNER, TENANT, ETC.) of the property located at:

(Street) 19821 So. Hamilton Avenue (City) Los Angeles, Calif. (Zip) 90502
(ADDRESS OF PROPERTY PRODUCING WASTEWATER DISCHARGE)

Assessors Map Book No. 7351 Page No.* 33 Parcel No.* 1
(LEGAL ADDRESS OF PROPERTY PRODUCING WASTEWATER DISCHARGE)

Through Shell Oil Dominguez Refinery effluent discharge.
(LOCATION OF POINT OF WASTEWATER DISCHARGE TO SEWERAGE SYSTEM)

for a Permit for Industrial Wastewater Discharge to the sewerage system.

Type of Industry* Research & Development (GENERAL DESCRIPTION) 2821 (FEDERAL SIC NOS.)

Number of Employees (Full Time)* 129 (Part Time)* 0

Raw Materials Used* Butadiene, Styrene, Isoprene
(GENERAL DESCRIPTION – ADD ADDITIONAL SHEETS AS NEEDED)

Products Produced KRATON® (a synthetic rubber)
(GENERAL DESCRIPTION – ADD ADDITIONAL SHEETS AS NEEDED)

Wastewater Producing Operations Polymer solution washing and solvent stripping in coagulation operations. Cooling tower blowdown. Boiler plant blowdown. Laboratory sink drains.
(FULL DESCRIPTION – ADD ADDITIONAL SHEETS AS NEEDED)

Time of Discharge – * 24 hours/day AM/PM to AM/PM, (WORKING DAY – CROSS OUT AM OR PM) Days per Week* (M) (T) (W) (Th) (F) (Sa) (Su) (CIRCLE DAYS)

* Wastewater Flow Rate* Critical parameter estimate 100,000 G/d Measured average AA (Gallons Per Day) 94,000 gal/day

Constituents of Wastewater Discharge Boiler and cooling tower treatment chemicals. Sodium hydroxide. Sodium Citrate.
(GENERAL DESCRIPTION – ATTACH CHEMICAL ANALYSES RESULTS TO THIS APPLICATION)

Person in company responsible for industrial wastewater discharge:

A. H. Anderegg (PRINT) (NAME) Manager Services Dept. (POSITION) 323-3030 (TELEPHONE NUMBER)

I affirm that all information furnished is true and correct and that the applicant will comply with the conditions stated on the back of this permit form.

Date February 28, , 19 73

TORRANCE
SS-0007588

Signature for Applicant [signature] (COMPANY ADMINISTRATIVE OFFICIAL) (NAME) Manager Services Dept. (POSITION)

Approved by City or County Official

Date April 17, 1973

For Dept. of County Engineers ..... ☐

City of [illegible] ☑

Name [illegible]

Position [illegible]

Note: A new permit may be required by the local City or County Agency.

Approved by Sanitation Districts of Los Angeles County

Date MAR 10 1973

John D. Parkhurst, Chief Engineer and General Manager

by [signature]

Position SUPERVISOR IN CHARGE
INDUSTRIAL WASTE SECTION

SHELL DEVELOPMENT COMPANY
A DIVISION OF SHELL OIL COMPANY
P. O. BOX 211
TORRANCE, CALIFORNIA 90509

TELEPHONE 323-3030
321-2340

ELASTOMERS
TECHNICAL CENTER

November 13, 1973

Air Pollution Control District
County of Los Angeles
434 South San Pedro Street
Los Angeles, California 90013

Attention Mr. John C. Mosher

Gentlemen:

We have completed and enclosed the Hazardous Pollutants survey form which you mailed to Shell Chemical Company at this address on October 30, 1973 along with the letter of transmittal. Please note that Shell Development Company, not Shell Chemical, now resides at this address.

We have listed the materials used in significant amounts in this facility. As we are a research and development organization, we use a large variety of compounds, containing the listed materials, in amounts ranging from less than a gram to several pounds per year. The wastes from this laboratory and pilot plant usage are disposed of in compliance with pertinent regulations.

If you have any questions, please contact Mr. A. H. Anderegg or Mr. L. E. Hanstedt at 323-3030 for additional information.

Yours very truly,

T. L. Keelen, Director

Enclosures

LEH:eb

bc: J. H. Fields
A. H. Anderegg
L. E. Hanstedt
ETC Files

TORRANCE
SS-0007131

AIR POLLUTION CONTROL DISTRICT
COUNTY OF LOS ANGELES
434 SOUTH SAN PEDRO STREET / LOS ANGELES, CALIFORNIA 90013 MA 9-4711

ROBERT G. LUNCHE
ACTING AIR POLLUTION CONTROL OFFICER

Hazardous Pollutants Section 974-7581
-7582
-7450

Company Name Shell Development Co. Equipment Address 19821 South

Elastomers Technical Center Hamilton Avenue, Torrance, Calif.

SURVEY OF HAZARDOUS MATERIAL USE IN LOS ANGELES COUNTY, 1973

PLEASE FILL OUT FORM USING BACK IF NEEDED. FOR NON-USE CHECK HERE __ AND RETURN.

1. MATERIAL (Check even if only compounds or alloys, etc. are used.)

___ Antimony	___ Cobalt	___ Pesticides
___ Arsenic	___ Copper	___ Phosphorus
___ Asbestos	___ Fluorides	___ Radioactives
___ Barium	___ Lead	___ Selenium
___ Beryllium	*B Lithium	___ Tin
___ Boron	___ Manganese	___ Vanadium
___ Cadmium	*C Mercury	___ Yttrium
___ Chromium	*D Nickel	___ Zinc

*A Other triethyl aluminum (TEA)

* For code see attachment

2. FORM AS RECEIVED AND AS FINISHED. See attached

3. PROCESSING USED.

___ Casting	___ Grinding
___ Chemical Milling/Etching	___ Heating to °F.
___ Classifying (Size)	___ Machining
___ Crushing	___ Melting
___ Curing	___ Mixing (Dry or Wet)
___ Cutting or Shearing	___ Plating or Coating
___ Forming or Molding	___ Sawing
X Other Process reactions for A, B, and D	___ Welding or Sweating

4. METHOD OF DISPOSAL OF SCRAP.

See attached

5. AVERAGE AMOUNT OF HAZARDOUS MATERIAL HANDLED OR PROCESSED, LB/MONTH

See attached

6. TYPE OF POLLUTION CONTROL?

See attached

TORRANCE
SS-0007132

Nov. 13, 1973 (Date) (Signature of Responsible Official) Mgr. Services (Title)

Name and phone no. of person to contact A. H. Anderegg 323-3030

SHELL DEVELOPMENT COMPANY
ELASTOMERS TECHNICAL CENTER
TORRANCE, CALIFORNIA

Response to County of Los Angeles

Hazardous Pollutants Section 974-7581
-7582
-7450

2. A = 15% solution in cyclohexane.

   B = Butyllithium in cyclohexane.

   C = Metallic mercury is stored in sealed containers, covered pots, and confined in switches and/or instruments. Mercuric sulfate is used in analysis at rate of about 1/2 lb/year.

   D = 12%w nickel as nickel octoate in cyclohexane.

4. A, B, and D removed from process as citrates and discharged with industrial waste water. Metallic mercury is reclaimed. Waste mercuric sulfate is disposed of per rules for disposal of hazardous chemicals.

5. A = 250 lb/mo as TEA.

   B = 30 lb/mo as butyllithium.

   C = Est. 5 lb/mo is handled but is reused.

   D = 350/400 lb/mo as nickel octoate.

6. A, B, and D = closed systems from supply containers thru process until discharged as citrates.

SHELL DEVELOPMENT COMPANY
A DIVISION OF SHELL OIL COMPANY
P. O. BOX 211
TORRANCE, CALIFORNIA 90509

TELEPHONE 323-3030
321-2340

ELASTOMERS
TECHNICAL CENTER

24-9-~

November 28, 1973

Truesdail Laboratories, Inc.
4101 North Figueroa Street
Los Angeles, California 90065

Attention Mr. Zahner

Gentlemen:

Attached as requested are the two copies of your Laboratory Report No. 119732 of November 23, 1973 covering analysis of our industrial wastewater.

These are being returned for correction as discussed yesterday in a telephone conversation between myself and Mr. Zahner of your laboratories.

Thank you for your attention to this matter.

Yours very truly,

A. H. Anderegg
Manager Services

Attachments

LEH:AHA:eb

bc: T. L. Keelen
L. E. Hanstedt
ETC Files

Copy To

REPORT

TRUESDAIL LABORATORIES, INC.

CHEMISTS - MICROBIOLOGISTS - ENGINEERS
RESEARCH - DEVELOPMENT - TESTING

4101 N. FIGUEROA STREET
LOS ANGELES 90065
AREA CODE 213 • 225-1564
CABLE: TRUELABS

CLIENT: Shell Development Company
Post Office Box 211
Torrance, California 96509
Attn: Harry Hogue

DATE: November 23, 1973

RECEIVED: November 5, 1973

SAMPLE: Industrial Wastewater

LABORATORY NO. 119732

P.O. No.: ET-12674 KHT

INVESTIGATION: Analysis for 22 parameters in accordance with requirements of the Los Angeles Count Sanitation District.

RESULTS

pH at 16°C	10.41
Color (Pt. Co units)	25

	(Milligrams/Liter)
C.O.D.	294
Suspended Solids	28.0
Total Dissolved Solids	1130
Ammonia	2.4
Sulfide	0.003
Fluoride	10.1
Aluminum	10.0
Boron	0.46
Chromium	1.31
Copper	<0.002
Iron	0.20
Lead	<0.005
Mercury	<0.001
Nickel	2.25
Sodium	292.6
Zinc	0.10
Oil and Grease	8.9
Phenols	<0.05
Surfactants	0.35
Chlorinated Hydrocarbons	None Detected
Thiosulfate	2.5

TORRANCE
SS-0007124

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Charlie A. Crutchfield
Technical Director

24-7 5

SHELL DEVELOPMENT COMPANY
A DIVISION OF SHELL OIL COMPANY
P. O. BOX 211
TORRANCE, CALIFORNIA 90509

TELEPHONE 323-3030
321-2340

ELASTOMERS
TECHNICAL CENTER

December 4, 1973

Mr. John D. Parkhurst
Chief Engineer and General Manager
County Sanitation Districts of Los Angeles County
2020 Beverly Boulevard
Los Angeles, California 90087

Dear Mr. Parkhurst:

We are attaching completed Los Angeles County Sanitation Districts Industrial Wastewater Critical Parameter Report Form #2. The submission of the report at this time was discussed via telephone on November 5, 1973 between Mr. Rorie of the Industrial Waste Section and Mr. L. E. Hanstedt of Shell Development. We anticipate receiving Critical Parameter Report #3 for submission by July 1, 1974 and will attempt to furnish the requested information.

We trust the enclosed information will satisfy your requirements. Should you have any questions, please contact Mr. A. H. Anderegg or Mr. L. E. Hanstedt at this location, telephone No. 323-3030.

Yours very truly,

for T. L. Keelen, Director

Attachment

Copy To

LEH:eb

bc: Shell Oil
Dominguez - Wilmington Refinery -
Manager (w/attachment)
Tax Division - Los angeles
(w/o attachment)

bbc: L. E. Hanstedt - w/attachment
A. H. Anderegg - w/attachment
ETC Files - w/attachment

TORRANCE
SS-0007363

M70009

SANITATION DISTRICTS OF LOS ANGELES COUNTY
INDUSTRIAL WASTEWATER
CRITICAL PARAMETER REPORT FORM

#2

Ident. Code	PARAMETER 1/	2/	QUANTITY VALUES		Ident. Code	PARAMETER 1/	2/	QUANTITY VALUES	
180 M (A)	Flow (Total)	A	100M	gals/day	V	Manganese - Total			mg/l
100 (B)	Flow (Peak)	A	100	gals/min.	(W)	Mercury - Total	A	<0.001	mg/l <0.001
508 (C)	COD	A	294	mg/l	X	Molybdenum - Total			mg/l
51.4 (D)	SS (Suspended Solids)	A	28.0	mg/l	(Y)	Nickel - Total	A	2.25	mg/l 3.66
10.35 (E)	pH	A	10.41	Units	Z	Selenium - Total			mg/l
1357 (F)	Total Dissolved Solids	A	1130	mg/l	AA	Silver - Total			mg/l
0.25 (G)	Ammonia (N)	A	2.4	mg/l	(BB)	Sodium - Total	A	292.6	mg/l 410
<0.01 (H)	Sulfide	A	0.003	mg/l	CC	Thallium - Total			mg/l
I	Cyanide			mg/l	DD	Tin - Total			mg/l
0.09 (J)	Fluoride	A	1.0	mg/l	EE	Titanium - Total			mg/l
5.07 (K)	Aluminum - Total	A	10.0	mg/l	(FF)	Zinc - Total	A	0.10	mg/l 0.52
L	Antimony - Total			mg/l	(GG)	Oil & Grease (Hexane Extract)	A	8.9	mg/l 0.4
M	Arsenic - Total			mg/l	(HH)	Phenols	A	<0.05	mg/l <0.05
N	Beryllium - Total			mg/l	(II)	Surfactants (MBAS)	A	0.35	mg/l 0.19
0.45 (O)	Boron - Total	A	0.46	mg/l	(JJ)	Chlorinated Hydrocarbons (except pesticides)	A	<0.01	mg/l Chloroform 0.019
P	Cadmium - Total			mg/l					
1.16 (Q)	Chromium - Total	A	1.31	mg/l	KK	Pesticides (Chlor. Hycarb.)			mg/l
R	Cobalt - Total			mg/l	LL	Radioactivity (Alpha, Beta & Gamma)			pCi/l
1.53 (S)	Copper - Total	A	<0.002	mg/l	MM	Temperature			Degrees °F
1.64 (T)	Iron - Total	A	0.20	mg/l	(NN)	Color	A	25	Units 27
0.17 (U)	Lead - Total	A	<0.005	mg/l	(OO)	Thiosulfate (S)	A	2.5	mg/l 0.2

NON-CRITICAL PARAMETERS (Report When Available)					OTHER PARAMETERS (Report When Requested)			
PP	Calcium			mg/l	A1	11/21/1972 results in red ink		
QQ	Magnesium			mg/l	A2			
RR	Potassium			mg/l	A3			
SS	Barium			mg/l	A4			
TT	Nitrate			mg/l	A5			
UU	Chloride			mg/l	A6			
VV	Bromide			mg/l	A7			
WW	Sulfate			mg/l	A8			
XX	Phosphorus-Ortho			mg/l	A9			

TORRANCE
SS-0007364

NOTES: 1/ Report all critical parameters required by the Sanitation Districts and any other critical parameter known to be present in the wastewater. Those parameters required by the Districts but *known to be absent* from the wastewater may be reported by placing the word absent in the appropriate space.

2/ If values are obtained by measurements or analyses write A in this column. Analysis values must be determined, using representative 24-hour composite samples, by a State Certified or Districts Approved Laboratory. If values are obtained by estimate, write E in this column. *Estimated values are acceptable for new plants only.*

(Print) Truesdail Laboratories, Inc., 4101 No. Figueroa Street, Los Angeles, Calif. 90065
Name and Address of Laboratory Performing Analyses and Flow Measurements

(Print) Shell Development Company, Elastomers Technical Center 2821
Name of Company Having Wastewater Discharge SIC Number(s)

(Print) 19821 South Hamilton Street, Los Angeles, California 90502
Address of Wastewater Discharge

(Print) Commingled into and discharged with effluent of Shell Oil Co., Dominguez, Calif.
Additional Location Data (Data above should be for only *one* discharge point to the sewerage system)

Statement of Accuracy of Data

I hereby affirm that the above data comprise a true and correct representation of the wastewater discharged from the stated discharge point.

Date: 12/4/73 Location: Los Angeles, California

(Signed) Name Manager Services Department
Position (Administrative Officer of Company with [illegible])

M70209

SANITATION DISTRICTS OF LOS ANGELES COUNTY
INDUSTRIAL WASTEWATER
CRITICAL PARAMETER REPORT FORM #3

Ident. Code	PARAMETER 1/	2/	QUANTITY VALUES		Ident. Code	PARAMETER 1/	2/	QUANTITY VALUES	
A	Flow (Total)		100M	gals/day	V	Manganese - Total			mg/l
B	Flow (Peak)		100	gals/min.	W	Mercury - Total		< 0.001	mg/l
C	COD		288	mg/l	X	Molybdenum - Total			mg/l
D	SS (Suspended Solids)		18.4	mg/l	Y	Nickel - Total		1.73	mg/l
E	pH		9.50	Units	Z	Selenium - Total			mg/l
F	Total Dissolved Solids		1433	mg/l	AA	Silver - Total			mg/l
G	Ammonia (N)		3.31	mg/l	BB	Sodium - Total		345	mg/l
H	Sulfide		< 0.001	mg/l	CC	Thallium - Total			mg/l
I	Cyanide			mg/l	DD	Tin - Total			mg/l
J	Fluoride		1.56	mg/l	EE	Titanium - Total			mg/l
K	Aluminum - Total		1.52	mg/l	FF	Zinc - Total		0.15	mg/l
L	Antimony - Total			mg/l	GG	Oil & Grease (Hexane Extract)		4.7	mg/l
M	Arsenic - Total			mg/l	HH	Phenols		< 0.05	mg/l
N	Beryllium - Total			mg/l	II	Surfactants (MBAS)		0.64	mg/l
O	Boron - Total		0.15	mg/l	JJ	Chlorinated Hydrocarbons (except pesticides)	Chloroform		mg/l 1.15
P	Cadmium - Total			mg/l			Trichloroethylene		mg/l 0.43
Q	Chromium - Total		1.74	mg/l	KK	Pesticides (Chlor. Hycarb.)			mg/l
R	Cobalt - Total			mg/l	LL	Radioactivity (Alpha, Beta & Gamma)			pCi/l
S	Copper - Total		0.03	mg/l	MM	Temperature			Degrees °F
T	Iron - Total		1.07	mg/l	NN	Color		40	Units
U	Lead - Total		< 0.01	mg/l	OO	Thiosulfate (S)		6.1	mg/l

	NON-CRITICAL PARAMETERS (Report When Available)					OTHER PARAMETERS (Report When Requested)			
PP	Calcium			mg/l	A1				
QQ	Magnesium			mg/l	A2				
RR	Potassium			mg/l	A3				
SS	Barium			mg/l	A4				
TT	Nitrate			mg/l	A5				
UU	Chloride			mg/l	A6				
VV	Bromide			mg/l	A7				
WW	Sulfate			mg/l	A8				
XX	Phosphorus-Ortho			mg/l	A9				

TORRANCE
SS-0007851

NOTES: 1/ Report all critical parameters required by the Sanitation Districts and any other critical parameter known to be present in the wastewater. Those parameters required by the Districts but *known to be absent* from the wastewater may be reported by placing the word absent in the appropriate space.

2/ If values are obtained by measurements or analyses write A in this column. Analysis values must be determined, using representative 24-hour composite samples, by a State Certified or Districts Approved Laboratory. If values are obtained by estimate, write E in this column. *Estimated values are acceptable for new plants only.*

Truesdail Laboratories, Inc., 4101 No. Figueroa Street, Los Angeles, Calif. 90065
(Print) Name and Address of Laboratory Performing Analyses and Flow Measurements

Shell Development Company, Elastomers Technical Center
(Print) Name of Company Having Wastewater Discharge — SIC Number(s)

19821 South Hamilton Street, Los Angeles, California 90502
(Print) Address of Wastewater Discharge

Commingled into and discharged with effluent of Shell Oil Co., Dominguez, Calif.
(Print) Additional Location Data (Data above should be for only one discharge point to the sewerage system)

Statement of Accuracy of Data

I hereby affirm that the above data comprise a true and correct representation of the wastewater discharged from the stated discharge point.

Date: 7/5/74 Location: Los Angeles, California

(Signed) Name — Manager Services Department
Position (Administrative Officer of Company with Wastewater Discharge)

SANITATION DISTRICTS OF LOS ANGELES COUNTY
INDUSTRIAL WASTEWATER
CRITICAL PARAMETER REPORT FORM #4

Ident. Code	PARAMETER 1/	2/	QUANTITY VALUES		Ident. Code	PARAMETER 1/	2/	QUANTITY VALUES	
A	Flow (Total)		72M	gals/day	V	Manganese - Total			mg/l
B	Flow (Peak)		80	gals/min.	W	Mercury - Total		< 0.001	mg/l
C	COD		38	mg/l	X	Molybdenum - Total			mg/l
D	SS (Suspended Solids)		1.8	mg/l	Y	Nickel - Total		< 0.02	mg/l
E	pH		9.2	Units	Z	Selenium - Total			mg/l
F	Total Dissolved Solids		374	mg/l	AA	Silver - Total			mg/l
G	Ammonia (N)		1.7	mg/l	BB	Sodium - Total		80	mg/l
H	Sulfide		< 0.01	mg/l	CC	Thallium - Total			mg/l
I	Cyanide			mg/l	DD	Tin - Total			mg/l
J	Fluoride		1.20	mg/l	EE	Titanium - Total			mg/l
K	Aluminum - Total		0.57	mg/l	FF	Zinc - Total		0.75	mg/l
L	Antimony - Total			mg/l	GG	Oil & Grease (Hexane Extract)		2.5	mg/l
M	Arsenic - Total			mg/l	HH	Phenols		< 0.05	mg/l
N	Beryllium - Total			mg/l	II	Surfactants (LABAS)		0.17	mg/l
O	Boron - Total		0.12	mg/l	JJ	Chloroform		0.13	mg/l
P	Cadmium - Total			mg/l		Trichloroethylene		0.18	mg/l
Q	Chromium - Total		2.90	mg/l		Trichloroethane		0.011	mg/l
R	Cobalt - Total			mg/l	KK	Pesticides (Chlor. Hycarb.)			mg/l
S	Copper - Total		0.04	mg/l	LL	Radioactivity (Alpha, Beta & Gamma)			pCi/l
T	Iron - Total		1.24	mg/l	MM	Temperature			Degrees °F
U	Lead - Total		< 0.01	mg/l	NN	Color		40	Pt-Co Units
					OO	Thiosulfate (S)		< 1	mg/l

	NON-CRITICAL PARAMETERS (Report When Available)				OTHER PARAMETERS (Report When Requested)				
PP	Calcium			mg/l	A1				
QQ	Magnesium			mg/l	A2				
RR	Potassium			mg/l	A3				
SS	Boron			mg/l	A4				
TT	Nitrate			mg/l	A5				
UU	Chloride			mg/l	A6				
VV	Bromide			mg/l	A7				
WW	Sulfate			mg/l	A8				
XX	Phosphate-Ortho			mg/l	A9				

NOTES: 1/ Report all critical parameters required by the Sanitation Districts and any other critical parameter known to be present in the wastewater. Those parameters required by the Districts but *known to be absent* from the wastewater may be reported by placing the word absent in the appropriate space.

2/ *If values are obtained by measurements or analyses write A* in this column. Analysis values must be determined, using representative 24 hour composite samples, by a State Certified or Districts Approved Laboratory. If values are obtained by estimate, write E in this column. *Estimated values are acceptable for new plants only.*

Truesdail Laboratories, Inc., 4101 No. Figueroa Street, Los Angeles, Calif. 90065
(Print) Name and Address of Laboratory Performing Analyses and Flow Measurements

Shell Development Company, Elastomers Technical Center
(Print) Name of Company Having Wastewater Discharge — SIC Number(s)

19821 South Hamilton Street, Los Angeles, California 90502
(Print) Address of Wastewater Discharge

Commingled into and discharged with effluent of Shell Oil Co., Dominguez, Calif.
(Print) Additional Location Data (Data above should be for only one discharge point to the sewerage system)

Statement of Accuracy of Data

I hereby affirm that the above data comprise a true and correct representation of the wastewater discharged from the stated discharge point.

Date: 7/11/75 Location: Los Angeles, California

(Signature) Name — Manager Services Department
Position (Administrative Officer of Company with Wastewater Discharge)

PARTIALLY SCANNED
OVERSIZE ITEM(S)

See document # 2141266
for partially scanned image(s).

For complete hardcopy version of the oversize document
contact the Region IX Superfund Records Center at
(415) 536-2000

Shell Oil Company's Response to
Request for Information Pursuant to
CERCLA Section 104(e)
Del Amo Facility Superfund Site
March 7, 2008

EXHIBIT D

THIS MEMORANDUM is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

RECEIVED, subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.

RAILROAD ADDRESS

WATSON, CALIF.

AT LONG BEACH, CALIF. 90810 FROM AMERICAN CHEMICAL CORPORATION

CUSTOMER CODE	SH./PT DIV. TERR.	CARRIER'S NO.
		M-04855

THE PROPERTY DESCRIBED BELOW, IN APPARENT GOOD ORDER, EXCEPT AS NOTED (CONTENTS AND CONDITION OF CONTENTS OF PACKAGES UNKNOWN), MARKED, CONSIGNED, AND DESTINED AS INDICATED BELOW WHICH SAID CARRIER (THE WORD CARRIER BEING UNDERSTOOD THROUGHOUT THIS CONTRACT AS MEANING ANY PERSON OR CORPORATION IN POSSESSION OF THE PROPERTY UNDER THE CONTRACT) AGREES TO CARRY TO ITS USUAL PLACE OF DELIVERY AT SAID DESTINATION, IF ON ITS ROUTE, OTHERWISE TO DELIVER TO ANOTHER CARRIER ON THE ROUTE TO SAID DESTINATION. IT IS MUTUALLY AGREED, AS TO EACH CARRIER OF ALL OR ANY OF SAID PROPERTY OVER ALL OR ANY PORTION OF SAID ROUTE TO DESTINATION, AND AS TO EACH PARTY AT ANY TIME INTERESTED IN ALL OR ANY OF SAID PROPERTY, THAT EVERY SERVICE TO BE PERFORMED HEREUNDER SHALL BE SUBJECT TO ALL THE TERMS AND CONDITIONS OF THE UNIFORM DOMESTIC STRAIGHT BILL OF LADING SET FORTH (1) IN UNIFORM FREIGHT CLASSIFICATION IN EFFECT ON THE DATE HEREOF, IF THIS IS A RAIL OR A RAIL-WATER SHIPMENT, OR (2) IN THE APPLICABLE MOTOR CARRIER CLASSIFICATION OR TARIFF IF THIS IS A MOTOR CARRIER SHIPMENT.

SHIPPER HEREBY CERTIFIES THAT HE IS FAMILIAR WITH ALL THE TERMS AND CONDITIONS OF THE SAID BILL OF LADING, INCLUDING THOSE ON THE BACK THEREOF, SET FORTH IN THE CLASSIFICATION OR TARIFF WHICH GOVERNS THE TRANSPORTATION OF THIS SHIPMENT, AND THE SAID TERMS AND CONDITIONS ARE HEREBY AGREED TO BY THE SHIPPER AND ACCEPTED FOR HIMSELF AND HIS ASSIGNS.

Charges advanced:

$.....

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $..... to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per.....

(The signature here acknowledges only the amount prepaid.)

DATE SHIPPED: 10/15/71

FREIGHT CHARGES: Prepaid

CUSTOMER ORDER NO. & REQ'N. NO.: CT-55113

CUSTOMER RELEASE NO. & DATE:

SALES ORDER NO. & APPROVAL: 5993

CONSIGNED TO DESTINATION:
SHELL CHEMICAL COMPANY
20021 SOUTH VERMONT
LOS ANGELES, CALIFORNIA

F.O.B.	SHIPPED TO CODE DIV. TERR.	SHIPPING SCHEDULE
LOS ANGELES, CALIFORNIA		

NAME OF CARRIER	ROUTE	DELIVERING CARRIER	CAR OR VEHICLE INITIAL & NO.
PETROLANE TRANSPORT		PETROLANE TRANSPORT	#1 of 2

QTY. & PACKAGE ORDERED	CODE	ARTICLE	BILLING WEIGHT
T/T	05000	"American" Ethyl Chloride FURNISH WEIGHT TICKET TO CONSIGNEE UPON ARRIVAL Place four (4) DOT placards on the sides of the truck.	

"THIS IS TO CERTIFY THAT THE BELOW NAMED ARTICLES ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION."

THE FIBRE BOXES USED FOR THIS SHIPMENT CONFORM TO THE SPECIFICATIONS SET FORTH IN THE BOX MAKER'S CERTIFICATE THEREON, AND ALL OTHER REQUIREMENTS OF THE CONSOLIDATED FREIGHT CLASSIFICATION.

SHIPPER'S IMPRINT IN LIEU OF STAMP; NOT A PART OF BILL OF LADING APPROVED BY THE INTERSTATE COMMERCE COMMISSION.

PLEASE WEIGH

CAR BOARDED AND LEASED TO: CONSIGNEE

NO. PKG.	KIND OF PACKAGE, DESCRIPTION OF ARTICLE, SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUB. TO COR.)	Class or Rate	✓
1 T/T	ETHYL CHLORIDE FLAMMABLE LIQUID	38,000 GROSS		
	ETHYLENE DICHLORIDE FLAMMABLE LIQUID			
	VINYL CHLORIDE FLAMMABLE COMPRESSED GAS			
	POLY VINYL CHLORIDE LOADED TO FULL VISIBLE CAPACITY			
	PLASTICS OTHER THAN LIQUID, N.O.I.B.N.			

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor.)

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

$ .50 per POUND

This shipment is correctly described. CORRECT WEIGHT is..... .....

.....lbs. Subject to verification by the Transcontinental Freight Bureau According to Agreement No.

per AMERICAN CHEMICAL CORPORATION

Shipper
AMERICAN CHEMICAL CORPORATION
Per
PERMANENT P.O. ADDRESS OF SHIPPER
P.O. BOX 9247, LONG BEACH, CALIF. 90810

AGENT PETROLANE TRANSPORT
Per
TORRANCE
SI-0015423

CUSTOMER COPY

PHONES

OFFICE NEVADA 6-1726 GARFIELD 7-5471
DISPATCHER NEVADA 6-3929 NEWMARK 9-2621
FRESNO 237-7131

CARRIER

PETROLANE TRANSPORT

P.O. BOX 1410 • LONG BEACH, CALIF. 90801

NO. 53932

THIS MEMORANDUM

is an acknowledgment that a bill of lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

RECEIVED, subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.

FROM Monsanto Chemical Co ORDER NO. DATE 10-15-71

AT Long Beach Calif
(COMPLETE ADDRESS OF PICKUP POINT)

The property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff, if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CONSIGNED TO Shell Chemical Co DESTINATION Torrance Calif
(COMPLETE ADDRESS OF DELIVERY POINT)

UNIT	COMMODITY	REID—CNGA V.P.	SP.—A.P.I. GRAV.	TEMP.	GROSS GALLONS
6859	Ethyl Chloride	1—lead			
2564					
1244					

REFINERY TICKET NOS. M-01855 TOTAL

LOADING INFORMATION — TIME IN 6:30 A.M. P.M. — TIME STARTED 7:30 A.M. P.M. — TIME OUT 8:30 A.M. P.M.

COMMENTS Purge T-T

"P.U.C. Regulations require this bill to be paid within 7 days of presentation."

Subject to Section 7 of conditions of applicable Bill of Lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor.)

Charges will be paid by Shipper unless otherwise noted.

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. THE AGREED OR DECLARED VALUE OF THE PROPERTY IS HEREBY SPECIFICALLY STATED BY THE SHIPPER TO BE NOT EXCEEDING ____ per ____. This is to certify that the above articles are properly described by name, and are packed and marked and are in proper condition for transportation, according to the applicable regulations prescribed by the Interstate Commerce Commission.

Shipper Monsanto Chemical Co By ____ Agt.

Carrier PETROLANE TRANSPORT By ____

FREIGHT BILL

TOTAL GALS.	RATE	CHARGES
	FREIGHT CHARGES	
	TAX	
PREPAID ☐ COLLECT ☐	TOTAL CHARGES	

DELIVERY RECEIPT

DATE 10-15-71 — TIME IN 9:10 A.M. P.M. — TIME STARTED 9:15 A.M. P.M. — TIME OUT ____ A.M. P.M. — TRUCK PUMP ☐ CUSTOMER'S PUMP ☐

COMMENTS:

Received Above in Good Condition Except as Noted: 5

By ____ CONSIGNEE OR AGENT

UNLOADING DRIVER

DESTINATION

TORRANCE
ST-0015424

10M SETS FORM 256 B/L 9/68 D56662

FORM NO. R-265 (REV. 1-60) PRINTED IN U.S.A.

WEIGHT TICKET & LOADING ORDER

963260

☐ SHELL OIL COMPANY
☒ SHELL CHEMICAL COMPANY

LOADER

FROM/TO American Chemical — ADDRESS Shell Chemical

CARRIER P. Trailers — B/L NO. M-04855 — DRIVER ☑ OFF ☐ ON

	SCALE WEIGHT	DATE	TIME	YEAR
GROSS	69140	Oct 15	8 57 AM	'71
TARE	31100	Oct 15	12 20 PM	'71
NET	38040			
GROSS				
TARE				
NET				

WEIGHMASTER

	LOAD	GROSS GALS.	MARKER	COMMODITY	TEMP.	GAUGES
TRUCK	B59			[redacted]		
				Ethyl Chloride		
TRAILER	B567					

TORRANCE
SI-0015425

SEAL NO'S _____ LOADER _____

THIS MEMORANDUM is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

RECEIVED, subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.

RAILROAD ADDRESS

WATSON, CALIF.

AT LONG BEACH, CALIF. 90810 FROM AMERICAN CHEMICAL CORPORATION

CUSTOMER CODE	SH./PT DIV. TERR.	CARRIER'S NO.
		M-04856

THE PROPERTY DESCRIBED BELOW, IN APPARENT GOOD ORDER, EXCEPT AS NOTED (CONTENTS AND CONDITION OF CONTENTS OF PACKAGES UNKNOWN), MARKED, CONSIGNED, AND DESTINED AS INDICATED BELOW WHICH SAID CARRIER (THE WORD CARRIER BEING UNDERSTOOD THROUGHOUT THIS CONTRACT AS MEANING ANY PERSON OR CORPORATION IN POSSESSION OF THE PROPERTY UNDER THE CONTRACT) AGREES TO CARRY TO ITS USUAL PLACE OF DELIVERY AT SAID DESTINATION, IF ON ITS ROUTE, OTHERWISE TO DELIVER TO ANOTHER CARRIER ON THE ROUTE TO SAID DESTINATION. IT IS MUTUALLY AGREED, AS TO EACH CARRIER OF ALL OR ANY OF SAID PROPERTY OVER ALL OR ANY PORTION OF SAID ROUTE TO DESTINATION, AND AS TO EACH PARTY AT ANY TIME INTERESTED IN ALL OR ANY OF SAID PROPERTY, THAT EVERY SERVICE TO BE PERFORMED HEREUNDER SHALL BE SUBJECT TO ALL THE TERMS AND CONDITIONS OF THE UNIFORM DOMESTIC STRAIGHT BILL OF LADING SET FORTH (1) IN UNIFORM FREIGHT CLASSIFICATION IN EFFECT ON THE DATE HEREOF, IF THIS IS A RAIL OR A RAIL-WATER SHIPMENT, OR (2) IN THE APPLICABLE MOTOR CARRIER CLASSIFICATION OR TARIFF IF THIS IS A MOTOR CARRIER SHIPMENT.

SHIPPER HEREBY CERTIFIES THAT HE IS FAMILIAR WITH ALL THE TERMS AND CONDITIONS OF THE SAID BILL OF LADING, INCLUDING THOSE ON THE BACK THEREOF, SET FORTH IN THE CLASSIFICATION OR TARIFF WHICH GOVERNS THE TRANSPORTATION OF THIS SHIPMENT, AND THE SAID TERMS AND CONDITIONS ARE HEREBY AGREED TO BY THE SHIPPER AND ACCEPTED FOR HIMSELF AND HIS ASSIGNS.

Charges advanced:

$.....

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $..... to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per.....

(The signature here acknowledges only the amount prepaid.)

DATE SHIPPED 10/15/71

FREIGHT CHARGES Prepaid

CUSTOMER ORDER NO. & REQ'N. NO. CT-55113

CUSTOMER RELEASE NO. & DATE

SALES ORDER NO. & APPROVAL 5993

SHIPPING SCHEDULE

CONSIGNED TO MIBLI CHEMICAL COMPANY
DESTINATION 20021 SOUTH VERMONT
LOS ANGELES, CALIFORNIA

F.O.B.	SHIPPED TO CODE DIV. TERR.
LOS ANGELES, CALIFORNIA	

NAME OF CARRIER	ROUTE	DELIVERING CARRIER	CAR OR VEHICLE INITIAL & NO.
PETROLANE TRANSPORT		PETROLANE TRANSPORT	#2 of 2

QTY. & PACKAGE ORDERED	CODE	ARTICLE	BILLING WEIGHT
C/T	05000	"Amchem" Ethyl Chloride	
		PURCHASER MUST TAKE TO CONSUMER WITH ARRIVAL.	
		Place four (4) NC placards on the sides of the truck.	

"THIS IS TO CERTIFY THAT THE BELOW NAMED ARTICLES ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION."

THE FIBRE BOXES USED FOR THIS SHIPMENT CONFORM TO THE SPECIFICATIONS SET FORTH IN THE BOX MAKER'S CERTIFICATE THEREON, AND ALL OTHER REQUIREMENTS OF THE CONSOLIDATED FREIGHT CLASSIFICATION.

SHIPPER'S IMPRINT IN LIEU OF STAMP; NOT A PART OF BILL OF LADING APPROVED BY THE INTERSTATE COMMERCE COMMISSION.

PLEASE WEIGH

CAR BOARDED AND LEASED TO: CONSIGNEE

NO. PKG.	KIND OF PACKAGE, DESCRIPTION OF ARTICLE, SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUB. TO COR.)	Class or Rate	✓
1 T/T	ETHYL CHLORIDE FLAMMABLE LIQUID	32,000 in spec.		
	ETHYLENE DICHLORIDE FLAMMABLE LIQUID			
	VINYL CHLORIDE FLAMMABLE COMPRESSED GAS			
	POLY VINYL CHLORIDE LOADED TO FULL VISIBLE CAPACITY			
	PLASTICS OTHER THAN LIQUID, N.O.I.B.N.			

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor.)

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

$ .50 per POUND

This shipment is correctly described. CORRECT WEIGHT is.....

.....lbs. Subject to verification by the Transcontinental Freight Bureau According to Agreement No.....

.....per AMERICAN CHEMICAL CORPORATION

Shipper
AMERICAN CHEMICAL CORPORATION
Per.....
PERMANENT P.O. ADDRESS OF SHIPPER
P.O. BOX 9247, LONG BEACH, CALIF. 90810

AGENT PETROLANE TRANSPORT
Per.....
TORRANCE
SI-0015426

CUSTOMER COPY

PHONES

OFFICE
NEVADA 6-1726
GARFIELD 7-5471
FRESNO 237-7131

DISPATCHER
NEVADA 6-3929
NEWMARK 9-2621

CARRIER

PETROLANE TRANSPORT

No. 53933

P.O. BOX 1410 • LONG BEACH, CALIF. 90801

THIS MEMORANDUM is an acknowledgment that a bill of lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

RECEIVED, subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.

FROM American Chemical Corp ORDER NO. _____ DATE 10-15-71

AT Long Beach Calif
(COMPLETE ADDRESS OF PICKUP POINT)

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CONSIGNED TO Shell Chemical Co. DESTINATION Torrance Calif
(COMPLETE ADDRESS OF DELIVERY POINT)

UNIT	COMMODITY	REID—CNGA V.P.	SP.—A.P.I. GRAV.	TEMP.	GROSS GALLONS
T844	Ethyl Chloride	1 load			

REFINERY TICKET NOS. M-07856 TOTAL

LOADING INFORMATION	TIME IN 12:30 P.M.	TIME STARTED 1:00 P.M.	TIME OUT 2:10 P.M.

COMMENTS

"P.U.C. Regulations require this bill to be paid within 7 days of presentation."

FREIGHT BILL

TOTAL GALS.	RATE	CHARGES
	FREIGHT CHARGES	
	TAX	
PREPAID ☐ COLLECT ☐	TOTAL CHARGES	

Subject to Section 7 of conditions of applicable Bill of Lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor.)

Charges will be paid by Shipper unless otherwise noted.

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. THE AGREED OR DECLARED VALUE OF THE PROPERTY IS HEREBY SPECIFICALLY STATED BY THE SHIPPER TO BE NOT EXCEEDING _____ per _____.

†This is to certify that the above articles are properly described by name, and are packed and marked and are in proper condition for transportation, according to the applicable regulations prescribed by the Interstate Commerce Commission.

Shipper American Chemical By _____ Agt.

Carrier PETROLANE TRANSPORT By _____

DELIVERY RECEIPT

DATE 10-15-71 | TIME IN 1:45 P.M. | TIME STARTED 3:00 P.M. | TIME OUT 4:30 P.M. | TRUCK PUMP ☐ | CUSTOMER'S PUMP ☐

COMMENTS:

Wilson
UNLOADING DRIVER

5

Received Above in Good Condition Except as Noted:

By _____
CONSIGNEE OR AGENT

TORRANCE
SI-0015427

10M SETS FORM 256 B/L 9/68 D56662

DESTINATION

963286

FORM NO. R-265 (REV. 1-60) PRINTED IN U.S.A.

WEIGHT TICKET & LOADING ORDER

☐ SHELL OIL COMPANY
☐ SHELL CHEMICAL COMPANY

LOADER

FROM/TO American Chemical — Shell Chemical ADDRESS.

CARRIER Petrolane B/L NO. IVI-07856 DRIVER ☒ OFF ☐ ON

	SCALE WEIGHT	DATE	TIME	YEAR
GROSS	69740	Oct 15	2 29 PM	'71
TARE	31100	Oct 15	12 20 PM	'71
NET	38640			
GROSS				
TARE				
NET				

Carl Skeen
WEIGHMASTER

	LOAD	GROSS GALS.	MARKER	COMMODITY	TEMP.	GAUGES
TRUCK	B-51			Ethyl Chloride		
TRAILER	B-96A					

TORRANCE
SI-0015428

SEAL NO'S LOADER

THIS MEMORANDUM is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.
RECEIVED, subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.

RAILROAD ADDRESS
WATSON, CALIF.

AT LONG BEACH, CALIF. 90810 FROM AMERICAN CHEMICAL CORPORATION

CUSTOMER CODE	SH./PT DIV. TERR.	CARRIER'S NO.
		K-04852

THE PROPERTY DESCRIBED BELOW, IN APPARENT GOOD ORDER, EXCEPT AS NOTED (CONTENTS AND CONDITION OF CONTENTS OF PACKAGES UNKNOWN), MARKED, CONSIGNED, AND DESTINED AS INDICATED BELOW WHICH SAID CARRIER (THE WORD CARRIER BEING UNDERSTOOD THROUGHOUT THIS CONTRACT AS MEANING ANY PERSON OR CORPORATION IN POSSESSION OF THE PROPERTY UNDER THE CONTRACT) AGREES TO CARRY TO ITS USUAL PLACE OF DELIVERY AT SAID DESTINATION, IF ON ITS ROUTE, OTHERWISE TO DELIVER TO ANOTHER CARRIER ON THE ROUTE TO SAID DESTINATION. IT IS MUTUALLY AGREED, AS TO EACH CARRIER OF ALL OR ANY OF SAID PROPERTY OVER ALL OR ANY PORTION OF SAID ROUTE TO DESTINATION, AND AS TO EACH PARTY AT ANY TIME INTERESTED IN ALL OR ANY OF SAID PROPERTY, THAT EVERY SERVICE TO BE PERFORMED HEREUNDER SHALL BE SUBJECT TO ALL THE TERMS AND CONDITIONS OF THE UNIFORM DOMESTIC STRAIGHT BILL OF LADING SET FORTH (1) IN UNIFORM FREIGHT CLASSIFICATION IN EFFECT ON THE DATE HEREOF, IF THIS IS A RAIL OR A RAIL-WATER SHIPMENT, OR (2) IN THE APPLICABLE MOTOR CARRIER CLASSIFICATION OR TARIFF IF THIS IS A MOTOR CARRIER SHIPMENT.
SHIPPER HEREBY CERTIFIES THAT HE IS FAMILIAR WITH ALL THE TERMS AND CONDITIONS OF THE SAID BILL OF LADING, INCLUDING THOSE ON THE BACK THEREOF, SET FORTH IN THE CLASSIFICATION OR TARIFF WHICH GOVERNS THE TRANSPORTATION OF THIS SHIPMENT AND THE SAID TERMS AND CONDITIONS ARE HEREBY AGREED TO BY THE SHIPPER AND ACCEPTED FOR HIMSELF AND HIS ASSIGNS.

Charges advanced:
$ .....
If charges are to be prepaid, write or stamp here, "To be Prepaid."
PP

Received $ ..... to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per .....
(The signature here acknowledges only the amount prepaid.)

DATE SHIPPED
~~XXX~~ 10/1/71

FREIGHT CHARGES
Prepaid

CUSTOMER ORDER NO. & REQ'N. NO.
CT 54533

CUSTOMER RELEASE NO. & DATE

SALES ORDER NO. & APPROVAL
5926

CONSIGNED TO
DESTINATION

F.O.B.

SHIPPED TO CODE DIV. TERR.

SHIPPING SCHEDULE

NAME OF CARRIER	ROUTE	DELIVERING CARRIER	CAR OR VEHICLE INITIAL & NO.
			#1 of 2

QTY. & PACKAGE ORDERED	CODE	ARTICLE		BILLING WEIGHT
			"THIS IS TO CERTIFY THAT THE BELOW NAMED ARTICLES ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION."	
			THE FIBRE BOXES USED FOR THIS SHIPMENT CONFORM TO THE SPECIFICATIONS SET FORTH IN THE BOX MAKER'S CERTIFICATE THEREON, AND ALL OTHER REQUIREMENTS OF THE CONSOLIDATED FREIGHT CLASSIFICATION. SHIPPER'S IMPRINT IN LIEU OF STAMP; NOT A PART OF BILL OF LADING APPROVED BY THE INTERSTATE COMMERCE COMMISSION.	

PLEASE WEIGH
CAR BOARDED AND LEASED TO: CONSIGNEE

NO. PKG.	KIND OF PACKAGE, DESCRIPTION OF ARTICLE, SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUB. TO COR.)	Class or Rate	✓
	ETHYL CHLORIDE FLAMMABLE LIQUID			
	ETHYLENE DICHLORIDE FLAMMABLE LIQUID			
	VINYL CHLORIDE FLAMMABLE COMPRESSED GAS			
	POLY VINYL CHLORIDE LOADED TO FULL VISIBLE CAPACITY			
	PLASTICS OTHER THAN LIQUID, N.O.I.B.N.			

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor.)

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

$ .50 per POUND
This shipment is correctly described. CORRECT WEIGHT is.....
..... lbs. Subject to verification by the Transcontinental Freight Bureau According to Agreement No. .....
..... per AMERICAN CHEMICAL CORPORATION

Shipper
AMERICAN CHEMICAL CORPORATION
Per .....
PERMANENT P.O. ADDRESS OF SHIPPER
P.O. BOX 9247, LONG BEACH, CALIF. 90810

AGENT
Per .....

TORRANCE
SI-0015429

CUSTOMER COPY

LOADER

FORM NO. P-7263 (REV. 1-60) PRINTED IN U.S.A.

WEIGHT TICKET & LOADING ORDER

☐ SHELL OIL COMPANY
☐ SHELL CHEMICAL COMPANY

35282

FROM/TO

ADDRESS

CARRIER

PAY NO. NK-04452

DRIVER ☐ OFF ☐ ON

SCALE WEIGHT	DATE	TIME	TAR #
GROSS 70800	Oct 1	8 14 AM '71	
TARE 31220	Oct 1	5 55 AM '71	
NET 39580			
GROSS			
TARE			
NET			

WEIGHMASTER

	LOAD	GROSS GALS.	MARKER	COMMODITY	TEMP.	GAUGES
TRUCK	854					
TRAILER	2949					

SEAL NOS.

LOADER

TORRANCE
SI-0015430

PHONES

OFFICE NEVADA 6-1726 GARFIELD 7-5471 FRESNO - 237-7131

DISPATCHER NEVADA 6-3929 NEWMARK 9-2621

CARRIER

PETROLANE TRANSPORT

P.O. BOX 1410 • LONG BEACH, CALIF. 90801

No 53904

THIS MEMORANDUM is an acknowledgment that a bill of lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

RECEIVED, subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.

FROM American Chemical Corp ORDER NO. DATE 10-1 19 71

AT Long Beach Calif
(COMPLETE ADDRESS OF PICKUP POINT)

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CONSIGNED TO Shell Chemical DESTINATION Torrance Calif
(COMPLETE ADDRESS OF DELIVERY POINT)

UNIT	COMMODITY	REID—CNGA V.P.	SP.—A.P.I. GRAV.	TEMP.	GROSS GALLONS
B54	Ethyl	—			
V614	Chloride	1—lead			
T44					

REFINERY TICKET NOS M-04852 TOTAL

LOADING INFORMATION	TIME IN	TIME STARTED	TIME OUT
	6 05 A.M. P.M.	6 30 A.M. P.M.	8 05 A.M. P.M.

COMMENTS
Pipe T-T

"P.U.C. Regulations require this bill to be paid within 7 days of presentation."

FREIGHT BILL

TOTAL GALS.	RATE	CHARGES
	FREIGHT CHARGES	
	TAX	
PREPAID ☐ COLLECT ☐	TOTAL CHARGES	

Subject to Section 7 of conditions of applicable Bill of Lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor.)

Charges will be paid by Shipper unless otherwise noted.

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. THE AGREED OR DECLARED VALUE OF THE PROPERTY IS HEREBY SPECIFICALLY STATED BY THE SHIPPER TO BE NOT EXCEEDING per
†This is to certify that the above articles are properly described by name, and are packed and marked, and are in proper condition for transportation, according to the applicable regulations prescribed by the Interstate Commerce Commission.

Shipper American Chemical Co By Lucian A. Earl Agt.

Carrier PETROLANE TRANSPORT By

DELIVERY RECEIPT

DATE	TIME IN	TIME STARTED	TIME OUT	
10-1-71	8 30 A.M. P.M.	9 00 A.M. P.M.	A.M. P.M.	TRUCK PUMP ☐ CUSTOMER'S PUMP ☐

COMMENTS: Tank on rack loading

Wilson
UNLOADING DRIVER

5

Received Above in Good Condition Except as Noted

By
CONSIGNEE OR AGENT

TORRANCE
SI-0015431

10M SETS FORM 256 B/L 9/68 D56662

DESTINATION

4 **THIS MEMORANDUM** is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

RECEIVED, subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.

RAILROAD ADDRESS
WATSON, CALIF.

AT LONG BEACH, CALIF. 90810 FROM **AMERICAN CHEMICAL CORPORATION**

CUSTOMER CODE	SHPT DIV. TERR	CARRIER'S NO.
		M-04853

THE PROPERTY DESCRIBED BELOW, IN APPARENT GOOD ORDER, EXCEPT AS NOTED (CONTENTS AND CONDITION OF CONTENTS OF PACKAGES UNKNOWN), MARKED, CONSIGNED, AND DESTINED AS INDICATED BELOW WHICH SAID CARRIER (THE WORD CARRIER BEING UNDERSTOOD THROUGHOUT THIS CONTRACT AS MEANING ANY PERSON OR CORPORATION IN POSSESSION OF THE PROPERTY UNDER THE CONTRACT) AGREES TO CARRY TO ITS USUAL PLACE OF DELIVERY AT SAID DESTINATION, IF ON ITS ROUTE, OTHERWISE TO DELIVER TO ANOTHER CARRIER ON THE ROUTE TO SAID DESTINATION. IT IS MUTUALLY AGREED, AS TO EACH CARRIER OF ALL OR ANY OF SAID PROPERTY OVER ALL OR ANY PORTION OF SAID ROUTE TO DESTINATION, AND AS TO EACH PARTY AT ANY TIME INTERESTED IN ALL OR ANY OF SAID PROPERTY, THAT EVERY SERVICE TO BE PERFORMED HEREUNDER SHALL BE SUBJECT TO ALL THE TERMS AND CONDITIONS OF THE UNIFORM DOMESTIC STRAIGHT BILL OF LADING SET FORTH (1) IN UNIFORM FREIGHT CLASSIFICATION IN EFFECT ON THE DATE HEREOF, IF THIS IS A RAIL OR A RAIL-WATER SHIPMENT, OR (2) IN THE APPLICABLE MOTOR CARRIER CLASSIFICATION OR TARIFF IF THIS IS A MOTOR CARRIER SHIPMENT.

SHIPPER HEREBY CERTIFIES THAT HE IS FAMILIAR WITH ALL THE TERMS AND CONDITIONS OF THE SAID BILL OF LADING, INCLUDING THOSE ON THE BACK THEREOF, SET FORTH IN THE CLASSIFICATION OR TARIFF WHICH GOVERNS THE TRANSPORTATION OF THIS SHIPMENT AND THE SAID TERMS AND CONDITIONS ARE HEREBY AGREED TO BY THE SHIPPER AND ACCEPTED FOR HIMSELF AND HIS ASSIGNS.

Charges advanced:
$........
If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $........ to apply in prepayment of the charges on the property described hereon.

.... Agent or Cashier

Per........
(The signature here acknowledges only the amount prepaid.)

DATE SHIPPED: 10/1/71
FREIGHT CHARGES: Prepaid
CUSTOMER ORDER NO. & REQ'N. NO.: CT 54533
CUSTOMER RELEASE NO. & DATE:
SALES ORDER NO. & APPROVAL: 5926
SHIPPING SCHEDULE:

CONSIGNED TO DESTINATION
[illegible]
[illegible] SOUTH [illegible]
LOS ANGELES, CALIFORNIA

F.O.B.	SHIPPED TO CODE DIV. TERR.
LOS ANGELES, CALIFORNIA	

NAME OF CARRIER	ROUTE	DELIVERING CARRIER	CAR OR VEHICLE INITIAL & NO.
[illegible] TRANSPORT		[illegible] TRANSPORT	#2 of 2

QTY.&PACKAGE ORDERED	CODE	ARTICLE	BILLING WEIGHT
S/T	05070	"[illegible]" Ethyl Chloride	
		[illegible] WEIGHT TICKET TO [illegible]	
		[illegible] four (4) EC placards on the [illegible] of the truck.	

"THIS IS TO CERTIFY THAT THE BELOW NAMED ARTICLES ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION."

THE FIBRE BOXES USED FOR THIS SHIPMENT CONFORM TO THE SPECIFICATIONS SET FORTH IN THE BOX MAKER'S CERTIFICATE THEREON, AND ALL OTHER REQUIREMENTS OF THE CONSOLIDATED FREIGHT CLASSIFICATION.
SHIPPER'S IMPRINT IN LIEU OF STAMP; NOT A PART OF BILL OF LADING APPROVED BY THE INTERSTATE COMMERCE COMMISSION.

PLEASE WEIGH
CAR BOARDED AND LEASED TO: CONSIGNEE

NO.PKG.	KIND OF PACKAGE, DESCRIPTION OF ARTICLE, SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUB. TO COR.)	Class or Rate	✓
1 T/T	ETHYL CHLORIDE FLAMMABLE LIQUID	38,000 [illegible]	[illegible]	
	ETHYLENE DICHLORIDE FLAMMABLE LIQUID			
	VINYL CHLORIDE FLAMMABLE COMPRESSED GAS			
	POLY VINYL CHLORIDE LOADED TO FULL VISIBLE CAPACITY			
	PLASTICS OTHER THAN LIQUID, N.O.I.B.N.			

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

____
(Signature of Consignor.)

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

$ .50 per POUND

This shipment is correctly described. CORRECT WEIGHT is........ lbs. Subject to verification by the Transcontinental Freight Bureau According to Agreement No.______

______ per AMERICAN CHEMICAL CORPORATION

Shipper
AMERICAN CHEMICAL CORPORATION
Per ________
PERMANENT P.O. ADDRESS OF SHIPPER
P.O. BOX 9247, LONG BEACH, CALIF. 90810

AGENT [illegible] TRANSPORT
Per ________

TORRANCE
SI-0015432

4 CUSTOMER COPY 4

LOADER

FORM NO. R-265 (REV. 1-60) PRINTED IN U.S.A.

WEIGHT TICKET & LOADING ORDER

☒ SHELL OIL COMPANY
☐ SHELL CHEMICAL COMPANY

35279

FROM/TO: [illegible] ADDRESS: [illegible]

CARRIER: [illegible] B/L NO. N-[illegible] DRIVER ☑ OFF ☐ ON

	SCALE WEIGHT	DATE	TIME	YEAR
GROSS	69220	OCT 1	1 02 PM	'71
TARE	31120	OCT 1	11 24 AM	'71
NET	38100			
GROSS				
TARE				
NET				

WEIGHMASTER [illegible signature]

	LOAD	GROSS GALS	MARKER	COMMODITY	TEMP	GAUGES
TRUCK	[illegible]			[illegible]		
TRAILER	[illegible]					

TORRANCE
SI-0015433

SEAL NOS. LOADER

PHONES

OFFICE
NEVADA 6-1726
GARFIELD 7-5471
FRESNO - 237-7131

DISPATCHER
NEVADA 6-3929
NEWMARK 9-2621

CARRIER

PETROLANE TRANSPORT

P.O. BOX 1410 • LONG BEACH, CALIF. 90801

No. 53905

THIS MEMORANDUM is an acknowledgment that a bill of lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

RECEIVED, subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.

FROM American Chemical Corp ORDER NO. DATE 10-1 19 71

AT Long Beach Calif
(COMPLETE ADDRESS OF PICKUP POINT)

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CONSIGNED TO Shell Chemical DESTINATION Torrance Calif
(COMPLETE ADDRESS OF DELIVERY POINT)

UNIT	COMMODITY	REID—CNGA V.P.	SP.—A.P.I. GRAV.	TEMP.	GROSS GALLONS
859	Ethyl				
896A	Chloride	1—Load			
T84					

REFINERY TICKET NOS. M-01853 TOTAL

LOADING INFORMATION	TIME IN	TIME STARTED	TIME OUT
	11 30 A.M.	11 30 A.M.	1 00 P.M.

COMMENTS

"P.U.C. Regulations require this bill to be paid within 7 days of presentation."

FREIGHT BILL

TOTAL GALS.	RATE	CHARGES
	FREIGHT CHARGES	
	TAX	
PREPAID ☐ COLLECT ☐	TOTAL CHARGES	

Subject to Section 7 of conditions of applicable Bill of Lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor.)

Charges will be paid by Shipper unless otherwise noted.

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. THE AGREED OR DECLARED VALUE OF THE PROPERTY IS HEREBY SPECIFICALLY STATED BY THE SHIPPER TO BE NOT EXCEEDING per

†This is to certify that the above articles are properly described by name, and are packed and marked and are in proper condition for transportation, according to the applicable regulations prescribed by the Interstate Commerce Commission.

Shipper American Chemical By E. Eagle Agt.

Carrier, PETROLANE TRANSPORT By [signature]

DELIVERY RECEIPT

DATE	TIME IN	TIME STARTED	TIME OUT	
10-1-71	1 25 P.M.	1 30 A.M. P.M.	2 35 A.M. P.M.	TRUCK PUMP ☐ CUSTOMER'S PUMP ☐

COMMENTS:

TORRANCE
SI-0015434

[signature]
UNLOADING DRIVER

5

Received Above in Good Condition Except as Noted:

By [signature]
CONSIGNEE OR AGENT

10M SETS FORM 256 B/L 9/68 D56662

DESTINATION

4 **THIS MEMORANDUM** is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

RAILROAD ADDRESS WATSON, CALIF.

RECEIVED, subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.

AT LONG BEACH, CALIF. 90810 FROM AMERICAN CHEMICAL CORPORATION

CUSTOMER CODE

SH/PT DIV. TERR.

CARRIER'S NO. M-04876

THE PROPERTY DESCRIBED BELOW, IN APPARENT GOOD ORDER, EXCEPT AS NOTED (CONTENTS AND CONDITION OF CONTENTS OF PACKAGES UNKNOWN), MARKED, CONSIGNED, AND DESTINED AS INDICATED BELOW WHICH SAID CARRIER (THE WORD CARRIER BEING UNDERSTOOD THROUGHOUT THIS CONTRACT AS MEANING ANY PERSON OR CORPORATION IN POSSESSION OF THE PROPERTY UNDER THE CONTRACT) AGREES TO CARRY TO ITS USUAL PLACE OF DELIVERY AT SAID DESTINATION, IF ON ITS ROUTE, OTHERWISE TO DELIVER TO ANOTHER CARRIER ON THE ROUTE TO SAID DESTINATION. IT IS MUTUALLY AGREED, AS TO EACH CARRIER OF ALL OR ANY OF SAID PROPERTY OVER ALL OR ANY PORTION OF SAID ROUTE TO DESTINATION, AND AS TO EACH PARTY AT ANY TIME INTERESTED IN ALL OR ANY OF SAID PROPERTY, THAT EVERY SERVICE TO BE PERFORMED HEREUNDER SHALL BE SUBJECT TO ALL THE TERMS AND CONDITIONS OF THE UNIFORM DOMESTIC STRAIGHT BILL OF LADING SET FORTH (1) IN UNIFORM FREIGHT CLASSIFICATION IN EFFECT ON THE DATE HEREOF, IF THIS IS A RAIL OR A RAIL-WATER SHIPMENT, OR (2) IN THE APPLICABLE MOTOR CARRIER CLASSIFICATION OR TARIFF IF THIS IS A MOTOR CARRIER SHIPMENT.

SHIPPER HEREBY CERTIFIES THAT HE IS FAMILIAR WITH ALL THE TERMS AND CONDITIONS OF THE SAID BILL OF LADING, INCLUDING THOSE ON THE BACK THEREOF, SET FORTH IN THE CLASSIFICATION OR TARIFF WHICH GOVERNS THE TRANSPORTATION OF THIS SHIPMENT AND THE SAID TERMS AND CONDITIONS ARE HEREBY AGREED TO BY THE SHIPPER AND ACCEPTED FOR HIMSELF AND HIS ASSIGNS.

Charges advanced: $

If charges are to be prepaid, write or stamp here, "To be Prepaid."

Received $ to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per

(The signature here acknowledges only the amount prepaid.)

DATE SHIPPED 10/28/71

FREIGHT CHARGES Prepaid

CUSTOMER ORDER NO. & REQ'N. NO. CT 55527

CUSTOMER RELEASE NO. & DATE

SALES ORDER NO. & APPROVAL 6024

CONSIGNED TO DESTINATION

SHELL CHEMICAL COMPANY
20021 SOUTH VERMONT
LOS ANGELES, CALIFORNIA

F.O.B. LOS ANGELES, CALIFORNIA

SHIPPED TO CODE DIV. TERR.

SHIPPING SCHEDULE

NAME OF CARRIER	ROUTE	DELIVERING CARRIER	CAR OR VEHICLE INITIAL & NO.
PETROLANE TRANSPORT		PETROLANE TRANSPORT	#2 of 2

QTY.&PACKAGE ORDERED	CODE		ARTICLE	BILLING WEIGHT
T/T		05000	"American" Ethyl Chloride	
			"FURNISH WEIGHT TICKET TO CONSIGNEE UPON ARRIVAL"	
			Place four (4) EC placards on the sides of the truck.	

"THIS IS TO CERTIFY THAT THE BELOW NAMED ARTICLES ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION."

THE FIBRE BOXES USED FOR THIS SHIPMENT CONFORM TO THE SPECIFICATIONS SET FORTH IN THE BOX MAKER'S CERTIFICATE THEREON, AND ALL OTHER REQUIREMENTS OF THE CONSOLIDATED FREIGHT CLASSIFICATION.

SHIPPER'S IMPRINT IN LIEU OF STAMP; NOT A PART OF BILL OF LADING APPROVED BY THE INTERSTATE COMMERCE COMMISSION.

PLEASE WEIGH

CAR BOARDED AND LEASED TO: CONSIGNEE

NO.PKG.	KIND OF PACKAGE, DESCRIPTION OF ARTICLE, SPECIAL MARKS AND EXCEPTIONS		*WEIGHT (SUB. TO COR.)	Class or Rate	✓
1 T/T	ETHYL CHLORIDE	FLAMMABLE LIQUID	38,000 approx.		
	ETHYLENE DICHLORIDE	FLAMMABLE LIQUID			
	VINYL CHLORIDE	FLAMMABLE COMPRESSED GAS			
	POLY VINYL CHLORIDE	LOADED TO FULL VISIBLE CAPACITY			
	PLASTICS OTHER THAN LIQUID, N.O.I.B.N.				

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor.)

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

$ .50 per POUND

This shipment is correctly described. CORRECT WEIGHT is .... lbs. Subject to verification by the Transcontinental Freight Bureau According to Agreement No.

per AMERICAN CHEMICAL CORPORATION

Shipper
AMERICAN CHEMICAL CORPORATION
Per [signature]
PERMANENT P.O. ADDRESS OF SHIPPER
P.O. BOX 9247, LONG BEACH, CALIF. 90810

AGENT PETROLANE TRANSPORT
Per [signature]

TORRANCE
SI-0015435

4 CUSTOMER COPY 4

PHONES

OFFICE: NEVADA 6-1726, GARFIELD 7-5471
DISPATCHER: NEVADA 6-3929, NEWMARK 9-2621
FRESNO - 237-7131

CARRIER

PETROLANE TRANSPORT

P.O. BOX 1410 • LONG BEACH, CALIF. 90801

No. 54240

THIS MEMORANDUM is an acknowledgment that a bill of lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

RECEIVED, subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.

FROM American Chemical Corp. ORDER NO. ______ DATE 10-28 19 71

AT Long Beach Calif.
(COMPLETE ADDRESS OF PICKUP POINT)

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CONSIGNED TO Hall Chemical Co. DESTINATION Torrance Cal.
(COMPLETE ADDRESS OF DELIVERY POINT)

UNIT	COMMODITY	REID—CNGA V.P.	SP.—A.P.I. GRAV.	TEMP.	GROSS GALLONS
[illegible]	Ethyl				
[illegible]	Chloride	[illegible]	[illegible]		
[illegible]					

REFINERY TICKET NOS. [illegible] TOTAL

LOADING INFORMATION	TIME IN [illegible] A.M. P.M.	TIME STARTED [illegible] A.M. P.M.	TIME OUT [illegible] A.M. P.M.

COMMENTS

"P.U.C. Regulations require this bill to be paid within 7 days of presentation."

FREIGHT BILL

TOTAL GALS.	RATE	CHARGES
	FREIGHT CHARGES	
	TAX	
PREPAID ☐ COLLECT ☐	TOTAL CHARGES	

Subject to Section 7 of conditions of applicable Bill of Lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor.)

Charges will be paid by Shipper unless otherwise noted.

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. THE AGREED OR DECLARED VALUE OF THE PROPERTY IS HEREBY SPECIFICALLY STATED BY THE SHIPPER TO BE NOT EXCEEDING ______ per ______
†This is to certify that the above articles are properly described by name, and are packed and marked and are in proper condition for transportation, according to the applicable regulations prescribed by the Interstate Commerce Commission.

Shipper, American Chem. By [signature] Agt.
Carrier, PETROLANE TRANSPORT By [signature]

DELIVERY RECEIPT

DATE 10-28	TIME IN 12 [illegible] A.M. P.M.	TIME STARTED 12 [illegible] A.M. P.M.	TIME OUT A.M. P.M.	TRUCK PUMP ☐	CUSTOMER'S PUMP ☐

COMMENTS:

[signature]
UNLOADING DRIVER

5

Received Above in Good Condition Except as Noted:

By ______
CONSIGNEE OR AGENT

TORRANCE
SI-0015436

10M SETS FORM 256 B/L 9/68 D56662

DESTINATION

FORM NO. R-255 (REV. 1-60) PRINTED IN U.S.A.

WEIGHT TICKET & LOADING ORDER

☐ SHELL OIL COMPANY
☐ SHELL CHEMICAL COMPANY

34895

FROM/TO American Chem. — Shell Chem. ADDRESS Baytown

CARRIER PETROLANE B/L NO. M04876 DRIVER ☑ OFF ☐ ON

	SCALE WEIGHT	DATE	TIME	YEAR
GROSS	68900	Oct 28	12 08 PM	'71
TARE	31000	Oct 28	10 26 AM	'71
NET	37900			
GROSS				
TARE				
NET				

WEIGHMASTER

	LOAD	GROSS GALS.	MARKER	COMMODITY	TEMP.	GAUGES
TRUCK	B54			ETHEL CHLORIDE		
TRAILER	B96A					

TORRANCE
SI-001 5437

SEAL NO'S LOADER

THIS MEMORANDUM is an acknowledgment that a Bill of Lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.
RECEIVED, subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading.

RAILROAD ADDRESS
WATSON, CALIF.

AT LONG BEACH, CALIF. 90810 FROM AMERICAN CHEMICAL CORPORATION

CUSTOMER CODE	SH/PT DIV. TERR.	CARRIER'S NO.
		M-04875

THE PROPERTY DESCRIBED BELOW, IN APPARENT GOOD ORDER, EXCEPT AS NOTED (CONTENTS AND CONDITION OF CONTENTS OF PACKAGES UNKNOWN), MARKED, CONSIGNED, AND DESTINED AS INDICATED BELOW WHICH SAID CARRIER (THE WORD CARRIER BEING UNDERSTOOD THROUGHOUT THIS CONTRACT AS MEANING ANY PERSON OR CORPORATION IN POSSESSION OF THE PROPERTY UNDER THE CONTRACT) AGREES TO CARRY TO ITS USUAL PLACE OF DELIVERY AT SAID DESTINATION, IF ON ITS ROUTE, OTHERWISE TO DELIVER TO ANOTHER CARRIER ON THE ROUTE TO SAID DESTINATION. IT IS MUTUALLY AGREED, AS TO EACH CARRIER OF ALL OR ANY OF SAID PROPERTY OVER ALL OR ANY PORTION OF SAID ROUTE TO DESTINATION, AND AS TO EACH PARTY AT ANY TIME INTERESTED IN ALL OR ANY OF SAID PROPERTY, THAT EVERY SERVICE TO BE PERFORMED HEREUNDER SHALL BE SUBJECT TO ALL THE TERMS AND CONDITIONS OF THE UNIFORM DOMESTIC STRAIGHT BILL OF LADING SET FORTH (1) IN UNIFORM FREIGHT CLASSIFICATION IN EFFECT ON THE DATE HEREOF, IF THIS IS A RAIL OR A RAIL-WATER SHIPMENT, OR (2) IN THE APPLICABLE MOTOR CARRIER CLASSIFICATION OR TARIFF IF THIS IS A MOTOR CARRIER SHIPMENT.
SHIPPER HEREBY CERTIFIES THAT HE IS FAMILIAR WITH ALL THE TERMS AND CONDITIONS OF THE SAID BILL OF LADING, INCLUDING THOSE ON THE BACK THEREOF, SET FORTH IN THE CLASSIFICATION OR TARIFF WHICH GOVERNS THE TRANSPORTATION OF THIS SHIPMENT AND THE SAID TERMS AND CONDITIONS ARE HEREBY AGREED TO BY THE SHIPPER AND ACCEPTED FOR HIMSELF AND HIS ASSIGNS.

Charges advanced:
$.....
If charges are to be prepaid, write or stamp here: "To be Prepaid."

Received $..... to apply in prepayment of the charges on the property described hereon.

Agent or Cashier

Per.....
(The signature here acknowledges only the amount prepaid.)

DATE SHIPPED: 10/28/71
FREIGHT CHARGES: Prepaid

CONSIGNED TO
DESTINATION
SHELL CHEMICAL COMPANY
20021 SOUTH VERMONT
LOS ANGELES, CALIFORNIA

CUSTOMER ORDER NO. & REQ'N. NO.: CT 55527
CUSTOMER RELEASE NO. & DATE:
SALES ORDER NO. & APPROVAL: 6024

F.O.B.	SHIPPED TO CODE DIV. TERR.	SHIPPING SCHEDULE
LOS ANGELES, CALIFORNIA		

NAME OF CARRIER	ROUTE	DELIVERING CARRIER	CAR OR VEHICLE INITIAL & NO.
PETROLANE TRANSPORT		PETROLANE TRANSPORT	#1 of 2

QTY. & PACKAGE ORDERED	CODE	ARTICLE		BILLING WEIGHT
T/T	05000	"American" Ethyl Chloride FURNISH WEIGHT TICKET TO CONSIGNEE UPON ARRIVAL. Place four (4) EC placards on the sides of the truck.	"THIS IS TO CERTIFY THAT THE BELOW NAMED ARTICLES ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED, AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION, ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION." THE FIBRE BOXES USED FOR THIS SHIPMENT CONFORM TO THE SPECIFICATIONS SET FORTH IN THE BOX MAKER'S CERTIFICATE THEREON, AND ALL OTHER REQUIREMENTS OF THE CONSOLIDATED FREIGHT CLASSIFICATION. SHIPPER'S IMPRINT IN LIEU OF STAMP; NOT A PART OF BILL OF LADING APPROVED BY THE INTERSTATE COMMERCE COMMISSION.	

PLEASE WEIGH
CAR BOARDED AND LEASED TO: CONSIGNEE

NO. PKG.	KIND OF PACKAGE, DESCRIPTION OF ARTICLE, SPECIAL MARKS AND EXCEPTIONS		*WEIGHT (SUB. TO COR.)	Class or Rate	✓
1 T/T	ETHYL CHLORIDE	FLAMMABLE LIQUID	38,000 approx.		
	ETHYLENE DICHLORIDE	FLAMMABLE LIQUID			
	VINYL CHLORIDE	FLAMMABLE COMPRESSED GAS			
	POLY VINYL CHLORIDE	LOADED TO FULL VISIBLE CAPACITY			
	PLASTICS OTHER THAN LIQUID, N.O.I.B.N.				

Subject to Section 7 of Conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor.)

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

$ .50 per POUND
This shipment is correctly described. CORRECT WEIGHT is.....
.....lbs. Subject to verification by the Transcontinental Freight Bureau According to Agreement No.....
..... per AMERICAN CHEMICAL CORPORATION

Shipper
AMERICAN CHEMICAL CORPORATION
Per M. Turnbull
PERMANENT P.O. ADDRESS OF SHIPPER
P.O. BOX 9247, LONG BEACH, CALIF. 90810

AGENT PETROLANE TRANSPORT
Per P. Ryan
TORRANCE
SI-0015438

CUSTOMER COPY

PHONES

OFFICE	DISPATCHER
NEVADA 6-1726	NEVADA 6-3929
GARFIELD 7-5471	NEWMARK 9-2621
FRESNO 237-7131	

CARRIER

PETROLANE TRANSPORT

P.O. BOX 1410 • LONG BEACH, CALIF. 90801

No 54239

THIS MEMORANDUM is an acknowledgment that a bill of lading has been issued and is not the Original Bill of Lading, nor a copy or duplicate, covering the property named herein, and is intended solely for filing or record.

RECEIVED, subject to the classifications and tariffs in effect on the date of the receipt by the carrier of the property described in the Original Bill of Lading

FROM American Chemical Corp. ORDER NO. ____ DATE 10-28 1971

AT Long Beach Calif
(COMPLETE ADDRESS OF PICKUP POINT)

the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

CONSIGNED TO [illegible] Chemical Co. DESTINATION Torrance Calif
(COMPLETE ADDRESS OF DELIVERY POINT)

UNIT	COMMODITY	REID CHGA VP	SP. A.P.I. GRAV.	TEMP.	GROSS GALLONS
B-54	ETHEL				
B-154	CHLORIDE				
TX					

REFINERY TICKET NOS. [illegible] TOTAL

LOADING INFORMATION — TIME IN 6:10 — TIME STARTED 6:40 — TIME OUT 7:50

COMMENTS: Purge — Load TX

"P.U.C. Regulations require this bill to be paid within 7 days of presentation."

FREIGHT BILL

TOTAL GALS.	RATE	CHARGES
	FREIGHT CHARGES	
	TAX	
PREPAID ☐ COLLECT ☐	TOTAL CHARGES	

Subject to Section 7 of conditions of applicable Bill of Lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of consignor.)

Charges will be paid by Shipper unless otherwise noted

NOTE—Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. THE AGREED OR DECLARED VALUE OF THE PROPERTY IS HEREBY SPECIFICALLY STATED BY THE SHIPPER TO BE NOT EXCEEDING ____ per ____.
This is to certify that the above articles are properly described by name, and are packed and marked, and are in proper condition for transportation, according to the applicable regulations prescribed by the Interstate Commerce Commission.

Shipper American [illegible] By [signature] Agt.

Carrier PETROLANE TRANSPORT By [signature]

DELIVERY RECEIPT

DATE 10-28 — TIME IN 8:35 — TIME STARTED [illegible] — TIME OUT 10:00 — TRUCK PUMP ☐ CUSTOMER'S PUMP ☐

COMMENTS

TORRANCE
ST-0015439

[signature]
UNLOADING DRIVER

5

Received Above in Good Condition Except as Noted
By [signature]
CONSIGNEE OR AGENT

10M SETS FORM 256 B/L 9/68 D56662

DESTINATION

FORM NO. R-265 (REV. 1-60) PRINTED IN U.S.A.

WEIGHT TICKET & LOADING ORDER

☐ SHELL OIL COMPANY
☐ SHELL CHEMICAL COMPANY

34886

FROM/TO

ADDRESS

CARRIER Petrolane

B/L NO.

DRIVER ☑ OFF ☐ ON

	SCALE WEIGHT	DATE	TIME	YEAR
GROSS	69960	Oct 28	8 00 AM	'71
TARE	31000	Oct 28	10 26 AM	'71
NET	38960			
GROSS				
TARE				
NET				

W C Chambless
WEIGHMASTER

	LOAD	GROSS GALS.	MARKER	COMMODITY	TEMP.	GAUGES
TRUCK	B54					
TRAILER	B961A					

TORRANCE
SI-0015440

SEAL NO'S

LOADER

R. L. ANGELIUS

OCTOBER 13, 1955

Referring to your memorandum requesting information as to the movement of tonnage into and out of the recently acquired rubber plants.

Enclosed are statements showing this information based upon the first three months' operations of the Shell Chemical Corporation plants at Torrance, California

TORRANCE
SQ-0015504

INBOUND CARLOAD SHIPMENTS -- MONTHLY AVERAGE

Origin	Vendor	Commodity	Present Routing	Gallons or Weight Per Shipment	Monthly Volume no. of cars per	Freight Paid By
Akron, Ohio	Goodyear Tire & Rubber Co.	Wingstay "S"	ACY-PRR-TPW-ATSF-PE	20 tons	20 tons /	Shell Chemical
Akron, Ohio	R. T. Vanderbilt Co.	Stalite	ACY-PRR-TPW-ATSF-PE	15 tons	15 tons /	Do.
Borger, Tex.	Phillips Chemical Co.	HAF Carbon Black	ATSF-PE	39 tons	39 tons /	Do.
Borger, Tex.	Phillips Chemical Co.	Sulfole	ATSF-PE	8000 gals.	8000 gals. /	Do.
Buffalo, N. Y.	Becco Chemical Co.	Potassium Persulphate	NYC-CRIP-SP-PE	20 tons	20 tons /	Do.
Carneys Point, N. J.	E. I. Du Pont de Nemours	PBNH (Staining)	CNJ-PRR-TPW-ATSF-PE	20 tons	60 tons 3	Do.
Covington, Va.	Braun Corp.	Nuchar	C&O-NYC-SFSF-QAP-ATSF-PE	20 tons	20 tons /	Do.
Dixie, Tex.	United Carbon Co.	EPC Carbon Black	T&NO-SP-PE	35 tons	70 tons 2	Do.
Dominguez, Calif.	Stauffer Chemical Co.	Sulphuric Acid	PE	7000 gals.	42,000 gals. 6	Do.
Eldon, Tex.	J. H. Huber Co.	HAF Carbon Black	SP-PE	40 tons	120 tons 3	Do.
Hattiesburg, Miss.	Hercules Powder Co.	Dresinate	MSC-IC-T&NO-SP-PE	10,000 gals.	90,000 gals. 9	Do.
Hattiesburg, Miss.	Hercules Powder Co.	PMHP	MSC-IC-T&NO-SP-PE	15 tons	15 tons /	Do.
Henderson, Nev.	Stauffer Chemical Co.	Caustic Soda	UP-PE	8000 gals.	8000 gals. /	Do.
Houston, Tex.	Shell Oil Co.	Ethyl Chloride	PT-T&NO-SP-PE	10,000 gals.	10,000 gals. /	Do.
Houston, Tex.	Shell Oil Co.	SPX 97	PT-T&NO-SP-PE	10,000 gals.	30,000 gals. 3	Do.
Houston, Tex.	Stauffer Chemical Co.	Aluminum Chloride	T&NO-SP-PE	28 tons	28 tons /	Do.
Laws, Calif.	Huntley Industries	Talc	SP-PE	50 tons	50 tons /	Do.
Los Angeles, Calif.	Lever Bros. Co.	Sodium Stearate	PE	25 tons	75 tons 3	Do.
Martinez, Calif.	Shell Oil Co.	Dutrex 20	SP-PE	10,000 gals.	110,000 gals. 11	Shell Oil
Naugatuck, Conn.	Naugatuck Chemical Co.	DD Mercoptan	NYNH&H-PRR-SLSF-QAP-ATSF-PE	8000 gals.	8000 gals. /	Shell Chemical
Naugatuck, Conn.	Naugatuck Chemical Co.	Polygard (Non-staining)	NYNH&H-PRR-SLSF-QAP-ATSF-PE	15 tons	15 tons /	Do.

Inbound Carload Shipments - Monthly Average

Origin	Vendor	Commodity	Present Routing	Gallons or Weight per Shipment	Monthly Volume	no. of cars/mo.	Freight Paid By
Niagara Falls, N. Y.	Braun Corp.	Aluminum Chloride	NYC-TPW-CRIP-SP-PE	28 tons	28 tons	1	Shell Chemical
Pittsburg, Calif.	Dow Chemical Co.	Caustic Soda	SP-PE	8000 gals.	32,000 gals.	4	Do.
Ponca City, Okla.	Witco Chemical Co.	HAF Carbon Black	CRIP-SP-PE	38 tons	190 tons	5	Do.
Rothschild, Wis.	Marathon Corp.	Marasperse CB	C&NW-CRIP-D&RGW-SP-PE	8000 gals.	8000 gals.	1	Do.
Sterlington, La.	Commercial Solvents Corp.	Methanol	MP-T&NO-SP-PE	8000 gals.	8000 gals.	1	Do.
Sun Station, Tex.	Sun Oil Co.	Naphthenic Oil	KCS-Shreveport-L&A-T&NO-SP-PE	10,000 gals.	20,000 gals.	2	Do.
Trona, Calif.	Pacific Salt & Chemical Co.	Sodium Chloride	Trona-SP-PE	50 tons	1050 tons	21	Do.
Ventura, Calif.	Shell Chemical Corp.	Anhydrous Ammonia	SP-PE	10,000 gals.	10,000 gals.	1	Do.
Wilmington, Calif.	Hooker Electrochemical	Caustic Soda	PE	8000 gals.	8000 gals.	1	Do.
Zuni, N. M.	El Paso Natural Gas	Mixed Butane	ATSF-PE	10,000 gals.	1,800,000 gals.	180	Do.

JWC
L.A.Traffic
10-12-55

TORRANCE SD-001506

OUTBOUND CARLOAD SHIPMENTS -- MONTHLY AVERAGE

Destination	Customer	Commodity	Present Routing	Gallons or Weight per Shipment	Monthly Volume	Freight Paid By
Borger, Tex.	Phillips Chemical Co.	Styrene	PE-ATSF	10,000 gals.	160,000 gals.	Shell Chemical
Houston, Tex.	Goodyear Synthetic Rubber	Do.	PE-SP	8000 gals.	80,000 gals.	Do.
Lake Charles, La.	Firestone Tire & Rubber Co.	Do.	PE-SP	8000 gals.	16,000 gals.	Do.
Terminal Island, Calif.	Shell Oil/Refiners Mktg.	Do.	PE	8000 gals.	784,000 gals.	Do.
Oakland, Calif.	American Mineral Spirits Co.	Toluene	PE-SP	8000 gals.	16,000 gals.	Customer
Oakland, Calif.	Sherwin Williams Co.	Do.	PE-SP	8000 gals.	8000 gals.	Do.
Akron, Ohio	Mohawk Rubber Co.	GRS (Rubber)	PE-SP-CRIP-PRR-ABB	40 tons	80 tons	Customer
Baltimore, Md.	Holtite Mfg. Co.	Do.	PE-ATSF-WAB-B&O	40 tons	40 tons	Do.
Denver, Colo.	Gates Rubber Co.	Do.	PE-ATSF-D&RGW	40 tons	160 tons	Do.
Houston, Tex.	Wedmann Co.	Do.	PE-SP	40 tons	80 tons	Do.
Los Angeles, Calif.	Firestone Tire & Rubber Co.	Do.	PE-SP	40 tons	40 tons	Do.
Los Angeles, Calif.	B. F. Goodrich Co.	Do.	PE-UP	40 tons	40 tons	Do.
Los Angeles, Calif.	Naugatuck Chemical Co.	Do.	PE-UP	40 tons	120 tons	Do.
Los Angeles, Calif.	U. S. Rubber Co.	Do.	PE-UP	40 tons	120 tons	Do.
Monrovia, Calif.	Caram Mfg. Co.	Do.	PE-ATSF	40 tons	80 tons	Do.
Nephi Utah	Thermoid Corp.	Do.	PE-UP	40 tons	40 tons	Do.
Oakland, Calif.	Mansfield Tire & Rubber Co.	Do.	PE-SP	40 tons	120 tons	Do.

Outbound Carload Shipments - Monthly Average

Destination	Customer	Commodity	Present Routing	Gallons or Weight per Shipment	Monthly Volume	Freight Paid By
Portland, Ore.	Voit Rubber Co.	GRS (Rubber)	PE-SP	40 tons	40 tons	Customer
St. Paul, Minn.	Minnesota Mining & Mfg. Co.	Do.	PE-UP-C&NW-CMStPM&O	40 tons	40 tons	Do.
Torrance, Calif.	H. Hiehlstein	Do.	PE	40 tons	40 tons	Do.
Wingfoot, Calif.	Goodyear Tire & Rubber Co.	Do.	PE	40 tons	1360 tons	Do.

JWC
L.A.Traffic
10-12-55

OUTBOUND TRUCK SHIPMENTS -- MONTHLY AVERAGE

Destination	Customer	Commodity	Present Routing	Gallons or Weight per Shipment	Monthly Volume	Freight Paid By
Long Beach, Calif.	Monsanto Chemical Corp.	Styrene	Reliable Transportation Co.	6500 gals.	110,500 gals.	Shell Chemical
Martinez, Calif.	Shell Chemical Corp.	Toluene	Cantlay & Tanzola	7000 gals.	20,000 gals.	Do.
Oakland, Calif.	American Mineral Spirits Co.	Do.	Lamb Transportation Co.	7000 gals.	14,000 gals.	Customer
South Gate, Calif.	American Mineral Spirits Co.	Do.	Lamb Transportation Co.	7000 gals.	35,000 gals.	Do.
South Gate, Calif.	American Mineral Spirits Co.	Do.	Chipman Trucking Co.	7000 gals.	14,000 gals.	Do.
Torrance, Calif.	General Petroleum Corp.	Do.	Reliable Transportation Co.	7000 gals.	84,000 gals.	Do.
Torrance, Calif.	Shell Chemical Butadiene Plant	B/B Fraction	Allyn Tank Lines	7800 gals.	101,400 gals.	Shell Chemical
Anaheim, Calif.	Neville Chemical Co.	Resin Fractions	Booth Transportation Co.	5500 gals.	16,500 gals.	Customer
El Segundo, Calif.	Standard Oil Co.	Iso Butane	Allyn Tank Lines	7800 gals.	241,800 gals.	Shell Chemical
Watson, Calif.	Richfield Oil Co.	Do.	Allyn Tank Lines	7800 gals.	46,800 gals.	Do.
Wilmington, Calif.	Texas Co.	Do.	Rumbley Transportation Co.	7800 gals.	304,200 gals.	Customer
El Segundo, Calif.	Standard Oil Co.	Normal Butane	Allyn Tank Lines	7800 gals.	647,400 gals.	Shell Chemical

WC - LA Traffic - 10-12-55

TORRANCE SO-001 5509

INBOUND TRUCK SHIPMENTS -- MONTHLY AVERAGE

TORRANCE SO-00155.0

Origin	Vendor	Commodity	Present Routing	Gallons or Weight per Shipment	Monthly Volume	Freight Paid By
Anaheim, Calif.	Neville Chemical Co.	Benzene	Booth Transportation Co.	5500 gals.	5500 gals.	Shell Chemical
Dominguez, Calif.	Shell Chemical Corp.	Acetone	Vendor's truck	14 tons	42 tons	Do.
Long Beach, Calif.	Proctor & Gamble	Sodium Stearate	Signal Trucking Service	25 tons	100 tons	Do.
Los Angeles, Calif.	Braun Corp.	Sodium Nitrate	Rainbow Truck Co.	1 ton	1 ton	Vendor
Los Angeles, Calif.	Braun Corp.	Tri-Sodium Phosphate	Torrance Van & Storage	30 tons	30 tons	Vendor
Los Angeles, Calif.	Golden Bear Oil Co.	Califlux TT	Orr Tank Lines	22 tons	22 tons	Vendor
Los Angeles, Calif.	Los Angeles Chemical Co.	Sodium Polysulfide	Vendor's truck	10 tons	10 tons	Vendor
Los Angeles, Calif.	Los Angeles Chemical Co.	Sulphur	Vendor's truck	20 tons	20 tons	Vendor
Los Angeles Harbor, Calif.	Shell Chemical - Edgington Refinery	Benzene	Signal Trucking Service	6500 gals.	156,000 gals.	Shell Chemical
Los Angeles Harbor, Calif.	Texas Company	Propane	Allyn Tank Lines	7800 gals.	85,800 gals.	Do.
Sloan, Nev.	Arrowhead Line & Chemical	Dolomitic Lime	Ringsby Truck Lines	20 tons	20 tons	Do.
South Gate, Calif.	A. R. Maas Co.	Tri-Sodium Phosphate	Balser Truck Co.	30 tons	30 tons	Vendor
Watson, Calif.	Richfield Oil Co.	Absorber Oil	Signal Trucking Service	6000 gals.	30,000 gals.	Shell Chemical
Watson, Calif.	Shell Oil Co.	Propane	Allyn Tank Lines	7800 gals.	7800 gals.	Do.

JWC
L.A.Traffic
10-12-55

Other

Receipts from Shell Oil Co.			
Propane via Pipeline (Estimate)		5,442,115	gals.
" " Union		378,701	"
Benzene " Pipeline		1,199,344	"
" " Odessa (Attached)		209,695	"
California Liquid Gas Co.			
Propane via Truck (Attached)		404,159	gals
Dipolene shipments (Resin Fractions)			
Shell Oil Co.		170,507	gals
Sales to customer		3974	"
E.B. Shipments			
Shell Oil Co.		72,294	Lbs
Rexall Chem. Co Exchange		152,948	"
Benzene Shipments		69,032	Lb
Ethylene Cylinders		2351	Lbs
American Chemical Co.			
Ethylene shipments (100% $C_2^=$)		152,529	Ll
Ethyl Chloride Receipts		224,600	"
Off-Spec Benzene to Shell Oil Co			
Benzene	14,900	gals.	
Other	4142	"	
Total		19,42	gal

Shell Oil Company's Response to
Request for Information Pursuant to
CERCLA Section 104(e)
Del Amo Facility Superfund Site
March 7, 2008

EXHIBIT E

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